

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

serve
A 292.9
So 3Fe

WATER SUPPLY OUTLOOK FOR WASHINGTON



U. S. DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE

Collaborating with

DEPARTMENT OF ECOLOGY STATE OF WASHINGTON

AS OF
MAY 1, 1975

Data included in this report were obtained by the agencies named above in cooperation
with Federal, State and private organizations listed inside the back cover of this report.

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

*Cover Photo: Cabins near Sacajawea Snow Course
in Bridger Mountains, Montana.*

SCS PHOTO 11-P480-15

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, West Technical Service Center, Room 111, 511 N.W. Broadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	204 E. 5th. Ave., Room 217, Anchorage, Alaska 99501
Arizona	6029 Federal Building, Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1218 S. W. Washington St., Portland, Oregon 97205
Utah	4012 Federal Bldg., 125 South State St., Salt Lake City, Utah 84138
Washington	360 U.S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82601

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia



WATER SUPPLY OUTLOOK FOR WASHINGTON

and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Issued by

KENNETH E. GRANT

ADMINISTRATOR
SOIL CONSERVATION SERVICE
WASHINGTON, D C.

Released by

GALEN S. BRIDGE

STATE CONSERVATIONIST
SOIL CONSERVATION SERVICE
SPOKANE, WASHINGTON

In Cooperation with

JOHN A. BIGGS

DIRECTOR
DEPARTMENT OF ECOLOGY
STATE OF WASHINGTON

Report prepared by

ROBERT T. DAVIS, Snow Survey Supervisor

SOIL CONSERVATION SERVICE
360 U.S. COURTHOUSE
SPOKANE, WASHINGTON 99201

WATER SUPPLY OUTLOOK

State of Washington
May 1, 1975

SNOW COVER

All drainage basins in the state of Washington were reported to have above normal snow packs as of May 1. The general range is from 20 to 40 percent greater. A few drainages with only one or two snow courses sometimes give abnormal results due to lack of proper coverage, elevationwise. For example, the snow course at Satus Pass on the Klickitat Drainage indicates the snow cover to be 574 percent greater than average. Another drainage with apparently good elevation coverage is the Wenatchee River, measured by 8 snow courses. The snow pack in this area is 14 percent greater than last year, 551 percent greater than was measured in 1973 and 107 percent greater than average. These figures, again, are the result of a good snow pack that extends down to the lower elevations and does not indicate an excessive high elevation snow pack. Stevens Pass has a snow pack that is 84 percent of last year, 220 percent of 1973 and 124 percent of average. The snow course, Berne Mill Creek, a thousand feet less elevation, has a snow cover that is the same as last year, yet 934 percent greater than was measured in 1973. Comparison of snow cover is generally not made on May 1 because of this high fluctuation of snow packs, elevationwise, but in years such as this, with above normal snow cover, it is indicative of what is up in the hills.

RESERVOIRS

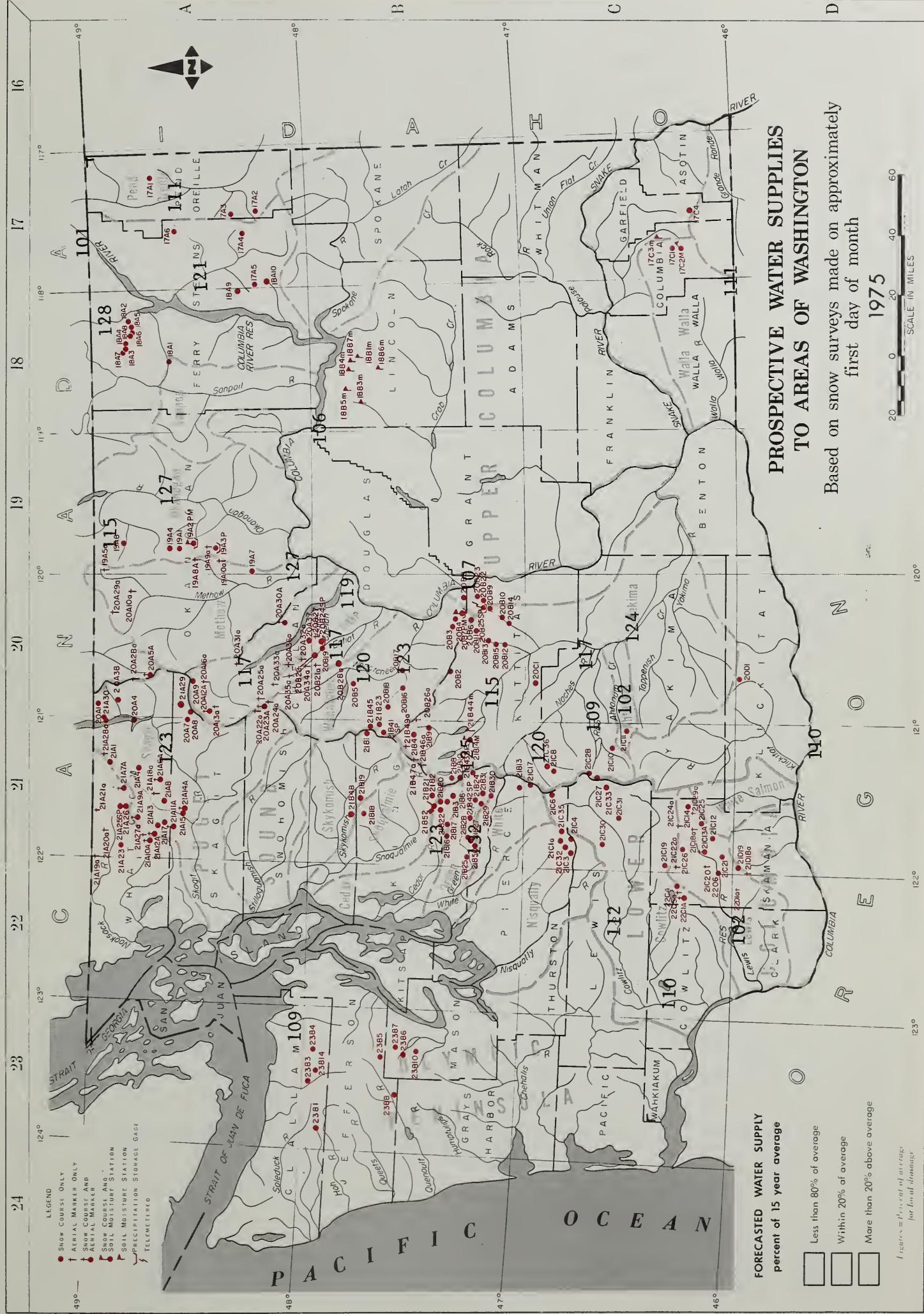
Most irrigation and power reservoirs have less water in storage than normal for this time of year. Exceptions are Banks Lake and Salmon Lake. Most of the reservoirs that were used for power production are exceptionally low, being drawn down during the past "Energy Crunch" to supply the needed power for the northwest. Irrigation reservoirs have also been drawn down, but this, in anticipation of the well above normal spring flows and to assist the flood control agencies in reducing damaging flows along the lower reaches of the rivers.

PRECIPITATION

Winter precipitation, as reported by the National Weather Service, ended up above normal on all drainage divisions in the state and surrounding areas. Spring precipitation starts with April and is reported to be 67 percent below normal for the Columbia in Canada; 16 percent below for the Pend Oreille-Spokane; 38 percent below for central Washington and 37 percent below on the west slopes of the Cascades. North eastern Washington had normal rainfall during the past month and south eastern and north central Washington had rainfall that was 14 and 24 percent above average, respectively.

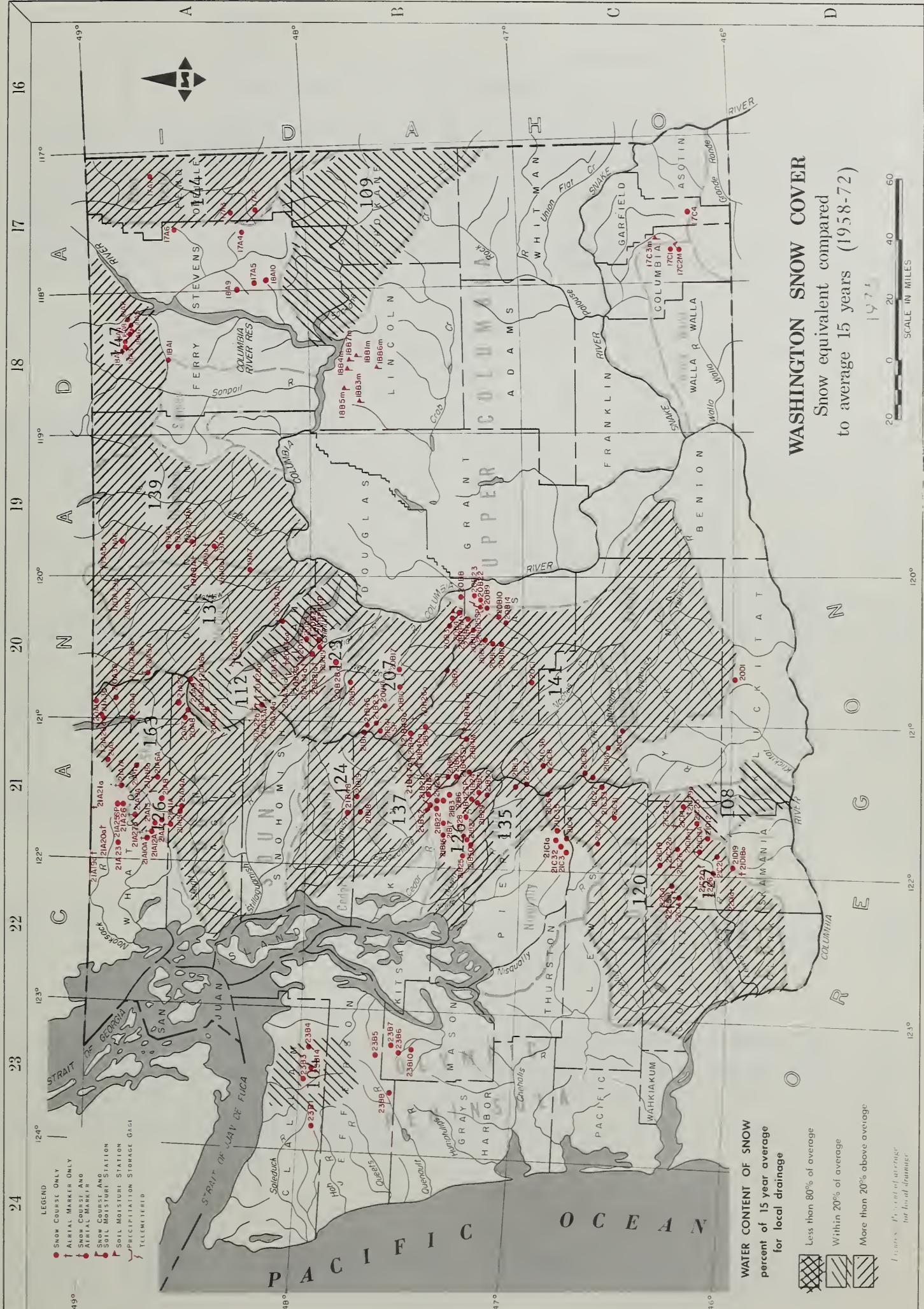
STREAMFLOW

Flows during the month of April ranged from a low of 39 percent of normal for the Similkameen River, as measured at Nighthawk, to a high of 47 percent above normal for the Palouse. Other low elevation drainages, such as the Klickitat and Walla Walla, had an outflow in the 80 percent of normal bracket. The Okanogan River at Tonasket had an outflow of 88 percent, but this again is a result of the British Columbia Governments attempt to evacuate Okanogan Lake in anticipation of the high inflows. Forecasts of streamflow have all been increased, percentagewise, from that previously reported as a result of the low outflow during April. The May-September forecasts now range from a low of 1 percent above normal for the Columbia River at Birchbank to a high of 32 percent above normal for the Green River below Howard Hansen Dam. The Okanogan River near Tonasket is expected to flow 2,020,000 acre feet during the May-September period. This compares with 2,511,000 acre feet of last year and 3,603,000 for 1972. None of the 1975 runoff forecasts exceeds or comes close to the flows experienced last year or close to the damaging flows which occurred in 1972. Numerical forecasts can be found following this narrative statement.



INDEX to WASHINGTON SNOW COURSES, SOIL MOISTURE STATIONS and PRECIPITATION STORAGE GAGES

NAME	NUMBER	SEC.	TWP.	RANGE	EL. LIV.	NAME	NUMBER	SEC.	TWP.	RANGE	EL. LIV.	
UPPER COLUMBIA DRAINAGE												
Pend Oreille River	Trough #2		20835F	10	20N	Lewis River (continued)	5310	divide Meadow	21C29a	21	9N	
Boyer Mountain	17A2	7	31N	13E	10E	10E	5606	Grand Meadow	21C25	28	8N	
Bunchgrass Meadow	17A1	4	37N	44E	9L	9L	3500	Lone Pine Shelter	21C26	8	7E	
Winchester Creek	17A3	30	33N	43E	2970	20E	5300	Marble Mountain	22C5a	24	8N	
Kettle River	18A2	36	39N	36E	1450	20E	4300	New Muddy River	22C6	36	6L	
Boulder Road	18A3	38	39N	35E	4070	20E	1	Oldian Pass	21D19	22	6N	
Butte Creek	18A8	5	38N	36E	3170	18	21N	Plains of Abraham	21D19	22	7E	
Cabin Creek	18A4	26	38N	35E	3595	20E	3400	Smith Creek Road	22C1a	35	9N	
Goat Creek	18A5	3	38N	36E	2150	34	21N	Spencer Meadow	22C4	29	9N	
Snow Caps Creek	18A6	5	38N	36E	2720	30	21N	Surprise Lakes	20A8	29	36N	
Snow Caps Trail	18A7	40	39N	35E	4600	20B7N	30	21N	Table Mountain	21C13a	14	7N
Summit G. S.								Timbered Peak	21C24	20	9N	
Colville River	17A6	19	36N	42E	3215	Croft Creek	20B8	32	27N	34E	4200	
Baird	18A9	34	32N	38E	2885	18B1m	28	27N	31E	2440	Cayuse Pass	
Carlton	17A4	11	32N	41E	1925	18B3m	21	27N	33E	2750	Mosquito Meadows	
Chewelah	17A5	26	31N	38E	4990	18B5m	17	27N	32E	2420	Ohanapocosh	
Stranger Mountain	18A10	6	29N	38E	3370	18B7m	24	27N	33E	2870	Packtail Peak	
Togo						18B6m	24	25N	32E	2440	Pigtail Peak	
Sapool River	18A1	19	36N	35E	5350	18B6m	24	25N	32E	2290	Potato Hill	
Sherman Creek Pass						William Creek	21B8	3	13N	8E	3250	William Creek
Okanogan River	19A8a	2	36N	23L	7000	Ahtanum R. S.	21C11	24	12N	14E	3100	Ahtanum R. S.
Clark	19A9a	20	36N	24L	6750	Big Boulder Creek	21B9	35	12N	14E	3200	Big Boulder Creek
Nuckamuck Creek No. 1	19A1	30	37N	24E	5700	Bumping Lake	21B8m	23	16N	12E	3450	Bumping Lake
Blutton Creek No. 2	19A4	19	37N	24E	6000	Cloudron Pass	21C36	13	16N	12E	3400	Cloudron Pass
Paysayen Creek	20A2a	32	40N	18E	4500	Cooke Creek	20B10	17	19N	20E	4123	Cooke Creek
Rusty Creek	19A2m	18	35N	24E	4000	Douerty Flat	21B44m	15	20N	14E	2200	Douerty Flat
Salmon Meadows	19A10a	15	35N	23E	6750	Fish Lake	21B4	34	24N	14E	3371	Fish Lake
Starvation Mtn.	19A6	30	39N	25E	2845	19A3p	18	35N	13E	6000	Green Lake	
Tours Coulee	19A7	36	34N	23E	4650	19A2p	35	37N	24E	20B1	Grouse Camp	
Methow River	20A10a	10	38N	20E	6400	19A1p	15	35N	24E	20B1	High Creek	
Billy Goat Pass	20A29a	8	38N	20E	7000	19A2p	7	37N	18E	20B1	Joe Lake	
Dollar Watch	20A5a	7	37N	18E	6500	19A5a	15	40N	20E	20B1	Lake Cle Elum	
Harts Pass	20A12a	18	31N	16E	7000	19A6	30	39N	18E	20B1	Lemah Creek	
Horseshoe Basin	20A31a	15	40N	20E	6300	20A12a	18	34N	16E	20B1	Van Epps Pass	
Loup Loup						20A26a	16	23N	15E	5925	Walters Flat	
Chelon Lake Basin	20A22a	12	31N	15E	6500	20A25a	3	31N	16E	20B15	Wartus Lake	
Cloudy Pass	20A25a	3	31N	16E	3540	20A25a	8	31N	16E	21B49a	White Pass (East Side)	
Greenwood Flat	20A28a	18	31N	16E	5275	20A28a	18	31N	16E	21C28	White Pass (Leach Lake)	
Little Meadows	20A23a	18	31N	16E	5900	20A3a	19	34N	22E	21C27	White Pass (Leach Lake)	
Lyman Lake	20A13a	19	34N	16E	2220	20A12a	18	34N	16E	21B7	White Pass (Leach Lake)	
Park Creek Flat	20A16a	3	34N	17E	3730	20A9	21	35N	17E	21B27	White Pass (Leach Lake)	
Park Creek Ridge	20A16a	3	34N	17E	4780	20A30a	32	31N	20E	21B28	White Pass (Leach Lake)	
Petersons	20A16a	3	34N	17E	4300	20A31a	34	33N	18E	21B28	White Pass (Leach Lake)	
Rainy Pass	20A9	21	35N	17E	4780	20A31a	34	33N	18E	21B29	White Pass (Leach Lake)	
Safety Harbor	20A31a	34	33N	18E	6500	20A31a	34	33N	18E	21B31	White Pass (Leach Lake)	
War Creek Pass						20A31a	34	33N	18E	21B31	White Pass (Leach Lake)	
Entiat River	20B28a	19	28N	18E	5425	Asotin Creek	17C4	9	8N	40E	5700	
Blue Creek G. S.	20B19	1600	28N	19E	1600	Spruce Springs	20B19	28N	19E	3360	Airstrip	
Entiat Meadows	20A33a	28	31N	17E	4800	Mill Creek	17C5m	2	9N	40E	3370	
Entiat River Trail	20A34a	2	29N	17E	3150	Cougar Mountain	17C1	11	9N	40E	4030	
Four Mile Ridge	20B2	35	22N	17E	4270	Grass Mountain No. 2	20B2	32	22N	17E	4400	
Fox Camp	20A3a	17	30N	18E	6510	Grass Mountain No. 3	20B2	31	22N	17E	4400	
Pope Ridge	20B20	22	28N	18E	4300	Lester Creek	21B29	36	20N	8E	4000	
Pope Ridge Snow Pillow	20A23a	34	30N	18E	6400	Lynn Lake	21B30	21	20N	8E	4000	
Pugh Ridge	20A37	20	29N	19E	6200	Sawmill Ridge	21B31	5	19N	11E	4700	
Shady Pass	20A55a	21	30N	17E	3850	Showshoe Butte	21B43p	14	20N	11E	5000	
Snow Brushy	20B21a	10	28N	18E	5300	Stampede Pass	21B10	25	21N	11E	3860	
Tommy Creek						Twin Camp	21B30	18	19N	11E	4100	
Wenatchee River						Four Camp	21B29	36	20N	8E	4000	
Berne-Mill Creek (New)	21B13p	7	26N	15E	3170	Four Stream	21B30	21	20N	8E	4000	
Blewett Pass No. 2	20B2	35	22N	17E	4270	City Cabin	21B3	10	21N	10E	2390	
Chiwaukum G. S.	20B16	4	25N	17E	1810	Mt. Gardner Aux.	21B22	31	22N	10E	3300	
Lake Wenatchee G. S.	20B5	33	27N	17E	1970	Mt. Lindsay	21B16	31	22N	9E	2500	
Leavenworth R. S.	20B17	1	24N	17E	1127	Mt. Washington New	21B52	8	22N	9E	3000	
Meritt Pass	20B18	4	26N	16E	2180	Rex River	21B17	11	21N	9E	2400	
Stevens Pass Sand Shed	21B15	12	26N	19E	3700	South Fork Cedar	21B6	24	21N	10E	3000	
Lake Elizabeth	21B19	33	26N	10E		Tinkham Creek	21B20	1	21N	10E	3400	
LOWER COLUMBIA DRAINAGE												
White Salmon River	21C12	35	7N	8E	4000	Cedar River	21B3	10	21N	10E	2390	
White Salmon River						City Cabin	21B2	19	22N	11E	3625	
White Salmon River						Mt. Gardner Aux.	21B2	19	22N	11E	1900	
Lewis River						Mt. Lindsay	21B16	31	22N	9E	2500	
Klickitat River	20D1	21	6N	17E	4030	Mt. Washington New	21B52	8	22N	9E	3000	
White Salmon River						Rex River	21B17	11	21N	9E	2400	
White Salmon River						South Fork Cedar	21B6	24	21N	10E	3000	
White Salmon River						Tinkham Creek	21B20	1	21N	10E	3400	
Snoqualmie River	21B12	35	7N	8E	4000	Black and White Lakes	21B7	17	24N	5W	5200	
Snoqualmie River						Four Stream	21B6	16	24N	5W	3000	
Snoqualmie River						Home Sweet Home	23B5	28	25N	5W	5200	
Snoqualmie River						Sundown Pass	23B8	25	24N	7W	3900	
OLYMPIC PENINSULA												
Morse Creek						Skokomish River	23B3	36	29N	7W	4500	
Morse Creek						Elwha River	23B1	14	28N	9W	3900	
Dungeness River												
Deer Park						Skokomish River	23B7	17	24N	5W	5200	
Deer Park						Morse Creek	23B14	31	29N	6W	4500	
Deer Park						Elwha River	23B3	36	29N	7W	4500	
LEGEND												
Berne-Mill Creek	21B27a	1	37N	7L	4900	NUMBERED SYSTEM EXAMPLE						
Blewett Pass	20B2	12	36N	8L	3800	ROUTE ONLY						
Chiwaukum G. S.	20B16	4	34	10E	4500	AERIAL MARKER ONLY						
Lake Wenatchee G. S.	20B5	33	27N	17E	21A7	ROUTE, COURSE AND AIRIAL MARKER						
Leavenworth R. S.	20B17	1	24N	17E	21A7	ROUTE, COURSE AND AIRIAL MARKER						
Meritt Pass	20B18	4	26N	16E	21A7	ROUTE, COURSE AND AIRIAL MARKER						
Stevens Pass Sand Shed	21B15	12	26N	19E	21A7	ROUTE, COURSE AND AIRIAL MARKER						
Lake Elizabeth	21B19	33	26N	10E	21A7	ROUTE, COURSE AND AIRIAL MARKER						
Snoqualmie River	21B12	35	7N	8E	21A7	ROUTE, COURSE AND AIRIAL MARKER						
Snoqualmie River					21A7	ROUTE, COURSE AND AIRIAL MARKER						
Snoqualmie River					21A7	ROUTE, COURSE AND AIRIAL MARKER						
Snoqualmie River					21A7	ROUTE, COURSE AND AIRIAL MARKER						
Snoqualmie River					21A7	ROUTE, COURSE AND AIRIAL MARKER						
Snoqualmie River					21A7	ROUTE, COURSE AND AIRIAL MARKER						
Snoqualmie River					21A7	ROUTE, COURSE AND AIRIAL MARKER						
Snoqualmie River					21A7	ROUTE, COURSE AND AIRIAL MARKER						
Snoqualmie River					21A7	ROUTE, COURSE AND AIRIAL MARKER						
Snoqualmie River					21A7	ROUTE, COURSE AND AIRIAL MARKER						
Snoqualmie River				</td								



INDEX to WASHINGTON SNOW COURSES, SOIL MOISTURE STATIONS and PRECIPITATION STORAGES

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.	NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.	NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.	
UPPER COLUMBIA DRAINAGE																		
Pend Oreille River	Trough # 2					Wenatchee River (continued)	20B25S10	20N	20E	5310		Lewis River (continued)	Divide Meadow	21C29a	21	9N	10E	5600
Boyer Mountain	17A1	7	31N	43E	5250	Colockum Creek	20B22	11	20N	20E		Beaver Creek Trail	21A4	35	39N	12E	2200	
Bunchgrass Meadow	17A1	24	37N	44E	5000	Colockum Creek Upper	20B23	1	20N	20E		Beaver Pass	21A1	9	39N	12E	3680	
Winchester Creek	17A3	30	33N	43E	2970	Colockum Creek Lower						Brown Top	21A3a	26	40N	12E	6000	
Kettle River	1BA2	36	39N	36E	1450	Squilchuck Creek	20B3	12	21N	19E	4400	Marble Mountain	21C26	24	34	38N	16E	5900
Boulder Road	1BA2	28	38N	35E	4070	Beehive Springs	20A4	18	21N	20E	3400	New Muddy River	22C5a	24	36	BN	61	2900
Butte Creek	1BA8	5	38N	36E	3170	Scout-A-Vista						Oldman Pass	21D19	22	6N	7E	3100	
Cabin Creek	1BA4	26	39N	35E	3595	Stemilt Creek	20B8	34	21N	20E	4450	Plains of Abraham	21A38	8	40N	16E	5000	
Goat Creek	1BA5	3	38N	36E	2150	Jump-Off	20B6	30	21N	20E	4450	Smith Creek Road	22C1a	35	9N	5E	3500	
Show Caps Creek	1BA6	5	38N	36E	2720	Stemilt Slide	21C20a	16	BN	7E	3400	Spencer Meadow	22C4	29	29N	6E	2100	
Show Caps Trail	1BA7	20	39N	35E	4600	Upper Wheeler	20B7	30	21N	20E	4400	Surprise Lakes	21C20a	17	19N	40N	1900	
Summit G. S.												Table Mountain	21C24a	14	7N	8E	2800	
Colville River												Timbered Peak	21D1Ba	36	6N	6E	4200	
Baird	17A6	19	36N	42E	3215	Crab Creek	21C6	15	16N	10E	5300	Cowichan River	21A7a	1	37N	7E	4900	
Carlson	18A9	34	32N	38E	2885	BB1m	2B	21C9	33	10N	7E	4100	Baker Pass	21A11a	8	36N	8E	3800
Chewelah	19A9	20	36N	24E	6750	BB3m	2B	21C32	28	15N	10E	2200	Dock Butte Pass	21A7a	19	39N	11E	5200
Stranger Mountain	17A5	11	41N	4925	4925	BB4m	21	27N	33E	2420	Packwood Lake	21A6a	17	3BN	11E	5400		
Togo	18A10	6	29N	38E	5370	BB5m	17	27N	32E	2378	Pigtail Peak	21C31	21	13N	10E	800		
Sanpoil River	18A1	19	36N	35E	5350	BB7m	24	27N	33E	2440	Potato Hill	21C33	11	13N	11E	3600		
Sherman Creek Pass	18A1	19	36N	35E	5350	BB8m	24	25N	32E	2290	William Creek	21C14	36	10N	10E	5800		
Okanogan River	19A8	2	36N	23E	7000	Ahtanum R. S.	21C30	24	12N	14E	3100	Yakima River	21C12a	20	37N	8E	2100	
Clark	19A9	30	36N	24E	5700	Big Boulder Creek	21B9	35	23N	14E	3200	Big Boulder Creek	21A10a	18	37N	8E	3400	
Muckleshoot	19A1	30	37N	24E	6000	Bumping Lake	21B9	23	16N	12E	3450	Bumping Lake	21A13	22	37N	8E	2200	
Nutton Creek No. 1	19A4	19	37N	24E	4300	Colockum Pass	21C36	13	16N	12E	3400	Colockum Pass	21A15	18	36N	9E	1600	
Nutton Creek No. 2	19A4	22	36N	24E	4300	Cooke Creek	20B10	17	20N	20E	4125	Cooke Creek	21B1	25	37N	9E	4500	
Payayen	20A28a	32	40N	18E	4300	Domery Flat	21B44m	15	20N	14E	2200	Domery Flat	21B4	35	12N	14E	3100	
Rusty Creek	19A2Pm	18	35N	24E	4000	Fish Lake	21B4	34	12N	13E	6000	Fish Lake	21C10	3	37N	7E	4400	
Salmon Meadows	19A3Pm	35	37N	24E	4500	Green Lake	21C10	3	12N	13E	6000	Green Lake	21C10	20	40N	8E	5100	
Starvation Mtn.	19A10a	15	35N	23E	6750	Grouse Camp	20B11	29	21N	19E	5385	Grouse Camp	21A23	9-10	38N	7E	3700	
Touts Coulee	19A6	30	39N	25E	2845	High Creek	20B12	34	20N	19E	5935	High Creek	21A26	17	39N	9E	4300	
Methow River	19A7	36	34N	23E	4650	Joe Lake	21B46a	22	23N	12E	4624	Joe Lake	21C4	23	15N	8E	4300	
Billy Goat Pass	20A10a	10	38N	30E	6400	Lake Cle Elum	21B44m	15	20N	14E	2200	Lake Cle Elum	21B14m	20	12N	15N	5500	
Dollar Watch	20A28a	8	39N	20E	7000	Lemah Creek	21B47a	7	23N	13E	3327	Lemah Creek	21B47a	13	15N	8E	5050	
Harts Pass	20A5A	7	37N	18E	6500	Matashash	20C11	24	17N	16E	3935	Matashash	20C11	24	20N	21E	5200	
Horseshoe Basin	19A5A	15	40N	23E	7000	Naum	20B13	4	20N	19E	5875	Naum	20B13	10	18N	19E	5200	
Loup Loop	19A7	36	34N	23E	4650	Trail Creek	20B14	20	19N	20E	3360	Trail Creek	21B18	13	21N	11E	4500	
Chelan Lake Basin	20A22a	12	31N	15E	6500	Tunnel Avenue	20B26a	16	23N	15E	5925	Tunnel Avenue	21B13	30	18N	11E	6000	
Cloudy Pass	20A23a	3	31N	16E	5540	Walters Flat	20B15	22	20N	19E	3360	Walters Flat	21B24	18	20N	11E	1800	
Greenwood Flat	20A24a	8	31N	16E	5275	Wapato Lake	21B49a	12	23N	13E	3024	Wapato Lake	21B25	27	21N	8E	1200	
Little Meadows	20A24a	3	31N	16E	5275	White Pass (East Side)	21C28	2	13N	11E	4500	White Pass (East Side)	21B24SP	21	21N	9E	3200	
Lyman Lake	20A25a	18	31N	16E	5900	White Pass (Leach Lake)	21C27	1	13N	11E	4500	White Pass (Leach Lake)	21B27	14	20N	12N	2900	
Park Creek Flat	20A13a	19	34N	16E	2220	Park Creek Ridge	20B20	22	29N	18E	4600	Park Creek Ridge	21B28	12	20N	11E	2100	
Petersons	20A12a	18	34N	16E	4600	Petersons	20A12a	3	34N	17E	3750	Petersons	21B28	12	20N	11E	3860	
Rainy Pass	20A19a	21	35N	17E	4780	Reps Pass	20B28a	19	28N	18E	5425	Reps Pass	21B29	36	20N	10E	3100	
Safety Harbor	20A30a	34	33N	20E	6300	Wapato Pass	20B15	12	23N	17E	4400	Wapato Pass	21B30	21	20N	11E	4000	
War Creek Pass	20A31a	34	33N	18E	6500	Wenatchee River	20B28a	19	28N	18E	5425	Wenatchee River	21B31	5	19N	11E	4500	
Blue Creek G.S.	20B19	34	28N	19E	1600	Wenatchee River	20B28a	19	28N	18E	5425	Wenatchee River	21B31	31	29N	7W	4500	
Brief	20A33a	28	31N	17E	4800	Wenatchee River	20B28a	19	28N	18E	5425	Wenatchee River	21B31	36	29N	7W	4500	
Entiat Meadows	20A34a	2	29N	17E	3150	Wenatchee River	20B28a	19	28N	18E	5425	Wenatchee River	21B31	36	29N	7W	4500	
Entiat River Trail	20B27a	15	28N	19E	7000	Wenatchee River	20B28a	19	28N	18E	5425	Wenatchee River	21B31	36	29N	7W	4500	
Four Mile Ridge	20A36a	17	30N	18E	6510	Wenatchee River	20B28a	19	28N	18E	5425	Wenatchee River	21B31	36	29N	7W	4500	
Fox Camp	20B20	22	29N	18E	4300	Homestead	17C1	2	9N	40E	3370	Homestead	21B21	30	22N	10E	3300	
Pope Ridge	20A32a	34	30N	18E	4300	Martin Springs (Helmers Sm)	17C2N	11	9N	40E	4030	Martin Springs (Helmers Sm)	21B22	31	22N	10E	2500	
Pug Ridge	20A32a	34	30N	18E	6400	Blue Lake	21B22a	19	9N	40E	4400	Blue Lake	21B22	11	21N	9E	3000	
Pug Ridge Show Pillow	20A35a	20	29N	19E	6200	South Fork Cedar	21B21	8	BN	7E	4800	South Fork Cedar	21B17	11	21N	9E	2400	
Shady Pass	20A35a	21	30N	17E	3850	Satus Pass	20D1	21	6N	17F	4030	Satus Pass	21B16	24	21N	10E	3000	
Show Brushy	20B21a	10	28N	18E	5300	Tinkham Creek	21C1Ba	24	9N	9E	4200	Tinkham Creek	21B22	1	21N	10E	3400	
Tommy Creek	21B23	7	26N	14E	3170	White Salmon River	21C12	35	7N	8E	4000	White Salmon River	21B17	31	27N	9E	3500	
Berne-Miil Creek (New)	21B41SP	13	26N	14E	4270	Cultus Creek	21C20	28	26N	17E	3240	Cultus Creek	21B18	19	22N	11E	3625	
Blewett Pass No. 2	20B2	35	22N	17E	4270	Devore Springs	21C20	28	26N	17E	3240	Devore Springs	21B18	26	26N	9E	1900	
Chiwaukum G. S.	20B16	4	25N	17E	1810	Mill Creek	17C3m	2	9N	40E	3370	Mill Creek	21B19	30	22N	10E	3300	
Lake Wenatchee	20B5	33	27N	17E	1970	Couse	17C1	11	9N	40E	4030	Couse	21B20	31	22N	9E	2500	
Leavenworth R. S.	20B17	1	24N	17E	1127	Homestead	17C2N	23	9N	40E	4400	Homestead	21B21	31	22N	9E	2500	
Merritt	20P18	4	26N	16E	2140	Blue Lake	21B22a	25	BN	7E	4800	Blue Lake	21B22	11	21N	9E	3000	
Stevens Pass Sand Shed	21B45	12	26N	19E	3700	Satus Pass	20D1	21	6N	17F	4030	Satus Pass	21B22	1	21N	10E	3400	
Berne-Miil Creek	21B23	7	26N	14E	3170	White Salmon River	21B19	33	7N	8E	4000	White Salmon River	21B19	31	27N	9E	3500	
Blewett Pass No. 2	21B2	35	22N	17E	4270	Brown Top	21C25	28	26N	17E	3240	Brown Top	21B19	30	22N	10E	3300	
Chiwaukum G. S.	21B16	4	25N	17E	1810	Devore Pass	21C25	28	26N	17E	3240	Devore Pass	21B19	30	22N	10E	3300	
Lake Wenatchee	21B5	33	27N	17E	1970	Devore Pass	21C25	28	26N	17E	3240	Devore Pass	21B19	30	22N	10E	3300	
Leavenworth R. S.	21B17	1	24N	17E	1127	Devore Pass	21C25	28	26N	17E	3240	Devore Pass	21B19	30	22N	10E	3300	
Merritt	21B18	4	26N	16E	2140	Devore Pass	21C25	28	26N	17E	3240	Devore Pass	21B19					

STREAMFLOW FORECASTS - MAY 1975

The following summarized runoff forecasts are based principally on mountain snow-cover and on the assumption that precipitation and temperature will be near average from the present time to the end of the forecast period. Appreciable deviations from normal of temperature and/or precipitation will correspondingly modify these forecasts. Streamflow figures for 1974 are preliminary and subject to revision.

Basin, Stream and Station	Forecast Runoff 1975	Seasonal Streamflow in Thousands of Acre-Feet						15-yr Average 1972 58-72
		%	Fore- cast 15-yr. Avg.	1974	1973	1972		
			period					

COLUMBIA BASIN

Columbia River System

Columbia River at Birchbank 1/	43800	101	May-Sep	50321	32773	53667	43514
	35000	101	May-Jul	40586	25853	43573	34632
	25100	102	May-Jun	27987	18180	31319	24633
Columbia River at Grand Coulee 1/	65700	106	May-Sep	75369	41919	78559	61962
	55100	107	May-Jul	63900	34263	66130	51473
	41900	107	May-Jun	47262	25956	50426	39153
Columbia River b1 Rock Island Dam 1/	72700	107	May-Sep	86002	44972	89350	67934
	61300	108	May-Jul	37543	37055	76004	56790
	47100	109	May-Jun	54309	27887	57970	43202
Columbia River at The Dalles, Or 1/	101000	110	May-Sep	119784	58016	119815	91599
	85300	111	May-Jul	103630	47114	102914	76822
	67300	112	May-Jun	79342	36249	81295	60087

Pend Oreille River System

Pend Oreille River b1. Box Canyon	15200	111	May-Sep		6929	17909	13737
	13700	110	May-Jul		6338	16336	12471
	11700	111	May-Jun		5507	13725	10561

Kettle River System

Kettle River nr. Laurier	2070	128	May-Sep	2330	992	2068	1614
	1950	127	May-Jul	2251	964	1984	1534
	1750	127	May-Jun	1975	892	1744	1381

1/ Observed flow corrected for storage in any of the following reservoirs which are above the station: Kootenay Lake, Hungry Horse, Flathead Lake, Pend Oreille Lake, F. D. Roosevelt Lake, Lake Chelan, Coeur d'Alene Lake, Brownlee, Noxon Reservoir and pumpage at F. D. Roosevelt Lake.

Basin, Stream and Station	Forecast Runoff 1975	Seasonal Streamflow in Thousands of Acre-Feet						15-Yr Average 58-72
		% 15-yr. Avg.	Fore- cast period	1974	1973	1972		
<u>Kettle River System (Cont.)</u>								
Colville River at Kettle Falls	110 97 85	121 121 120	May-Sep May-Jul May-Jun	164 147 130	32 29 27	76 65 56	91 80 71	
<u>Spokane River System *</u>								
Spokane River at Post Falls, ID 2/	2550 2450 2250	125 127 125	May-Sep May-Jul May-Jun		778 720 660	3100 2973 2742	2010 1926 1800	
<u>Okanogan River System</u>								
Similkameen River nr. Nighthawk	1640	115	May-Sep	2094	688	3118	1425	
	1530	115	May-Jul	1970	649	2949	1333	
	1300	115	May-Jun	1588	573	2426	1131	
Okanogan River nr. Tonasket	2020	127	May-Sep	2511	704	3603	1587	
	1850	128	May-Jul	2288	646	3273	1446	
	1550	128	May-Jun	1784	561	2646	1213	
<u>Methow River System</u>								
Methow River nr. Pateros	1200	127	May-Sep		466	1818	946	
	1110	126	May-Jul		430	1678	879	
	940	126	May-Jun		370	1383	748	
<u>Chelan River System</u>								
Chelan River at Chelan 3/	1360	119	May-Sep	1627	702	1730	1140	
	1200	120	May-Jul	1386	605	1483	999	
	940	122	May-Jun	989	469	1114	767	
Stehekin River at Stehekin	970	117	May-Sep		490	1167	830	
	820	117	May-Jul		396	975	702	
	630	120	May-Jun		301	704	526	
Entiat nr. Ardenvoir	260	117	May-Sep		132	372	223	
	240	118	May-Jul		118	335	204	
	195	118	May-Jun		99	257	165	

* Forecasts made by Jack A. Wilson, Soil Conservation Service, Boise, Idaho.

2/ Observed flow corrected for storage in Coeur d'Alene Lake and diversions by Spokane Valley Farms Company and Rathdrum Prairie Canals.

3/ Observed flow corrected for storage in Lake Chelan.

Basin, Stream and Station	Forecast Runoff 1975	Seasonal Streamflow in Thousands of Acre-Feet						15-Yr. Average 58-72
		% 15-Yr. Avg.	Fore- cast period	1974	1973	1972		
<u>Wenatchee River System</u>								
Wenatchee River at Plain	1400 1260 985	120 121 122	May-Sep May-Jul May-Jun	1750 1492 1028	689 608 488	1764 1523 1109	1165 1040 809	
Wenatchee River at Peshastin	1950 1735 1380	123 122 123	May-Sep May-Jul May-Jun	2333 2008 1409	903 808 656	2538 2216 1634	1583 1426 1121	
Steilacoom Basin nr. Wenatchee	160*	116	May-Sep			145*	138*	
<u>Yakima River System</u>								
Yakima River nr. Martin 4/	145 130 110	125 125 124	May-Sep May-Jul May-Jun	204 187 143	63 55 50	196 174 143	116 104 89	
Yakima River at Cle Elum 5/	910 830 700	115 118 118	May-Sep May-Jul May-Jun		441 376 319	1328 1188 969	794 706 593	
Yakima River nr. Parker 6/	1650 1600 1450	124 123 123	May-Sep May-Jul May-Jun		415 423 432	2732 2572 2195	1328 1298 1178	
Kachess River nr. Easton 7/	125 115 100	125 124 123	May-Sep May-Jul May-Jun	179 165 128	50 46 43	174 161 132	100 93 81	
Cle Elum River nr. Roslyn 8/	490 450 370	120 121 121	May-Sep May-Jul May-Jun	676 595 431	237 207 172	679 603 469	410 371 306	

* Thousands of Miners' inches.

4/ Observed flow corrected for storage in Lake Keechelus.

5/ Observed flow corrected for storage in Keechelus, Kachess and Cle Elum Lakes and diversion by Kittitas Canal.

6/ Observed flow corrected for storage in Keechelus, Kachess, Cle Elum, Bumping and Rimrock Lakes and diversions by Roza, Union Gap, New Reservation, Old Reservation and Sunnyside Canals.

7/ Observed flow corrected for storage in Lake Kachess.

8/ Observed flow corrected for storage in Lake Cle Elum.

Basin, Stream and Station	Forecast Runoff 1975	Seasonal Streamflow in Thousands of Acre-Feet						15-Yr. Average 58-72
		% 15-Yr. Avg.	Fore- cast period	1974	1973	1972		
<u>Yakima River System (Cont.)</u>								
Bumping River nr. Nile <u>9/</u>	155 145 120	120 122 125	May-Sep May-Jul May-Jun	213 130 135	63 57 51	211 186 138	129 118 96	
American River nr. Nile	125 115 95	112 112 112	May-Sep May-Jul May-Jun		59 54 47	168 151 119	112 103 85	
Tieton River at Tieton Dam <u>10/</u>	235 200 155	109 112 112	May-Sep May-Jul May-Jun	362 294 212	140 104 78	369 304 229	214 178 139	
Naches River nr. Naches <u>11/</u>	875 800 670	117 120 120	May-Sep May-Jul May-Jun		366 309 260	1313 1175 942	748 669 557	
Ahtanum Creek nr. Tampico <u>12/</u>	40 37 32	102 106 106	May-Sep May-Jul May-Jun		16 14 12	65 59 49	39 35 30	
<u>Lower Columbia River System</u>								
Mill Creek nr. Walla Walla	20 16 13	111 114 108	May-Sep May-Jul May-Jun		13 ?	24 19 15	18 14 12	
Lewis River at Ariel <u>13/</u>	950 800 650	102 105 101	May-Sep May-Jul May-Jun	1409 1222 958	591 456 365	1199 993 837	933 765 643	
Cowlitz River Blw. Mayfield Dam	1850 1600 1250	112 115 111	May-Sep May-Jul May-Jun		1006 822 658	2526 2149 1679	1650 1301 1123	
Cowlitz River at Castle Rock <u>14/</u>	2300 1950 1550	110 112 110	May-Sep May-Jul May-Jun	3410 2964 2272	1322 1064 857	3036 2548 1999	2003 1741 1407	

9/ Observed flow corrected for storage in Bumping Lake.

10/ Observed flow corrected for storage in Rimrock Lake.

11/ Observed flow corrected for storage in Bumping and Rimrock Lakes and diversions by Tieton, Selah Valley, Wapator Canals and City of Yakima.

12/ Observed flow of North and South Forks (Combined).

13/ Observed flow corrected for storage in Lake Merwin, Yale and Swift Reservoirs.

14/ Observed flow corrected for storage in Mayfield Reservoir.

Basin, Stream and Station	Forecast Runoff 1975	Seasonal Streamflow in Thousands of Acre-Feet					
		% 15-Yr. Avg.	Fore- cast period	15-Yr. cast period		15-Yr. Average	
		1974	1973	1972	58-72		

OLYMPIC PENINSULA

Dungeness River System

Dungeness River nr. Sequim	160 130 95	109 109 112	May-Sep May-Jul May-Jun	109 86 62	183 146 102	147 119 85
-------------------------------	------------------	-------------------	-------------------------------	-----------------	-------------------	------------------

PUGET SOUND

Skagit River System

Skagit River at Newhalem <u>15/</u>	2500	123	May-Aug	1381	3162	2037
--	------	-----	---------	------	------	------

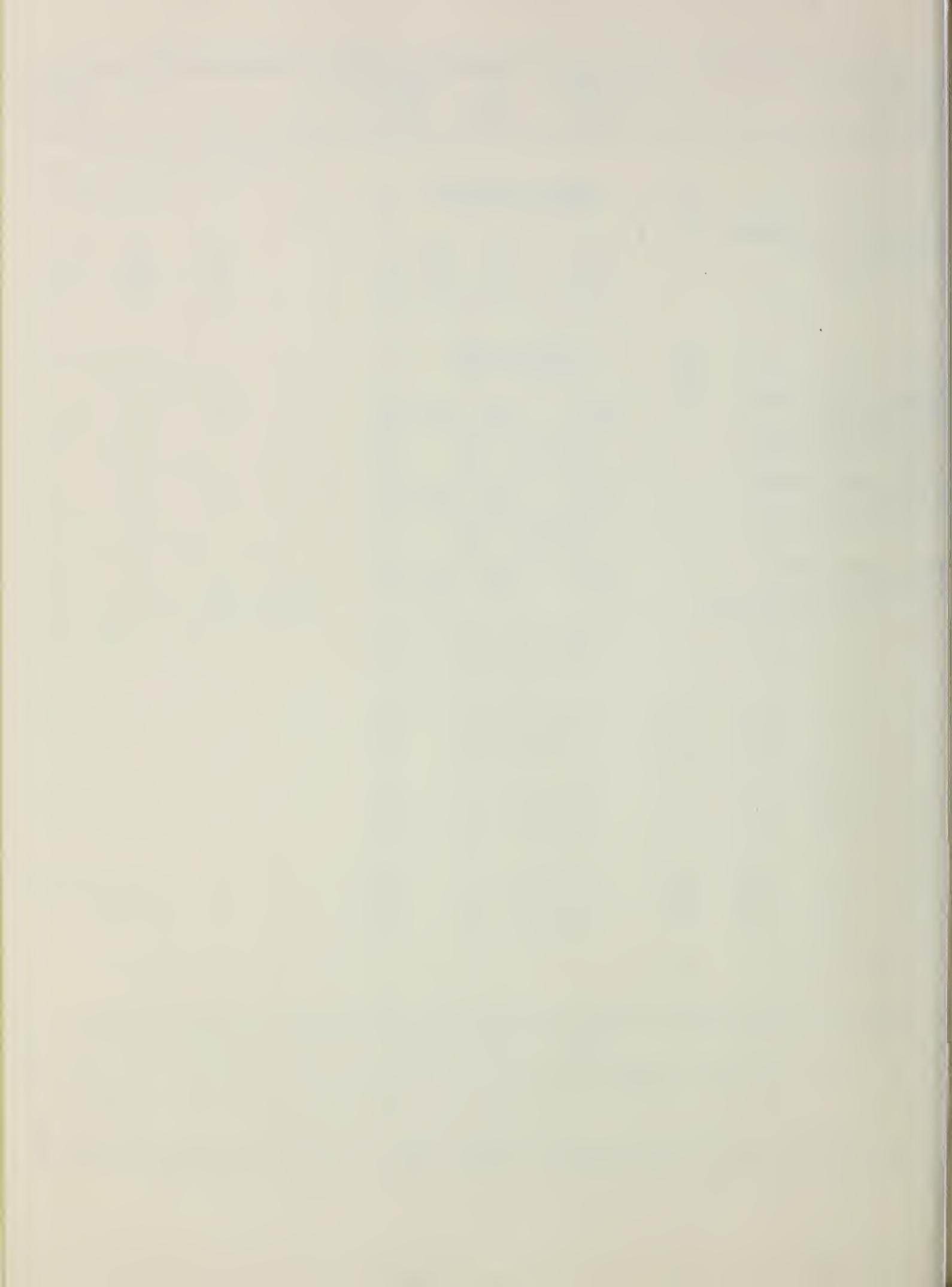
Cedar River System

Cedar River at Cedar Falls	112	123	Apr-Sep	53	122	91
-------------------------------	-----	-----	---------	----	-----	----

Green River System

Green River bl. Howard Hansen Dam	290	132	May-Sep	373	120	342
--------------------------------------	-----	-----	---------	-----	-----	-----

15/ Observed flow corrected for storage in Diablo, Ross, and Gorge Reservoirs.



COMPARISON OF SNOW COVER WITH THAT OF PREVIOUS YEARS

The following tabulation of Washington stream basins presents the water content of the snow about May 1, 1975 as percent of the same date in 1974 and 1973 and average of record

Tributary Basin	No. of Courses Average	1975 Snow Water Expressed As Percent Of		
		1974	1973	1958-72 Avg.
		<u>UPPER COLUMBIA BASIN</u>		
Pend Oreille	11	96	260	144
Kettle	10	95	194	147
Spokane	8	85	208	109
Okanogan	30	83	201	139
Methow	7	72	190	134
Chelan	1	82	151	112
Entiat	10	72	213	123
Wenatchee	8	114	651	207
Yakima	14	82	354	141
<u>LOWER COLUMBIA</u>				
Klickitat	1	164	-	674
White Salmon	2	64	278	108
Lewis	16	69	241	127
Cowlitz	6	74	277	120
<u>PUGET SOUND</u>				
Nisqually	4	74	222	-
White	2	76	208	135
Green	3	94	214	126
Snoqualmie	1	72	365	137
Skykomish	2	83	309	124
Skagit	12	90	221	163
Baker	10	77	175	126
Nooksack	1	57	146	-
<u>OLYMPIC PENINSULA</u>				
Skokomish	3	71	144	-
Elwha	1	90	204	104

RESERVOIR STORAGE - 1000 Acre Feet

BASIN OR STREAM	RESERVOIR	USABLE 1/ CAPACITY	Measured (May)				Normal*
			1975	1974	1973		
<u>COLUMBIA</u>							
Spokane	Coeur d'Alene Lake	225.1	95.5	263.5	83.9	174.1	
Columbia	Franklin D. Roosevelt Lake	5232.0	312.1	-1948.0	-42.5	1654.6	
Columbia	Banks Lake	761.8	550.7	548.2	319.0	457.7	
Okanogan	Conconully Reservoir	13.0	11.0	10.1	11.2	11.2	
Okanogan	Salmon Lake	10.5	9.5	9.9	9.9	7.8	
Chelan	Lake Chelan	676.1	79.0	188.5	195.2	225.1	
<u>YAKIMA</u>							
Yakima	Keechelus Lake	157.8	99.5	116.5	127.0	121.2	
Kachess	Kachess Lake	239.0	176.5	149.8	188.4	199.2	
Cle Elum	Lake Cle Elum	436.9	276.6	249.7	319.0	310.9	
Bumping	Bumping Lake	33.7	3.0	8.4	16.8	16.1	
Teiton	Rimrock Lake	198.0	134.8	144.3	131.5	146.2	
<u>PUGET SOUND</u>							
Skagit	Ross Reservoir	1202.0	385.9	700.2	722.2	751.2	
Skagit	Diablo Reservoir	90.6	86.9	85.7	88.4	85.7	
Skagit	Gorge Reservoir	9.8	7.9	7.9	8.4	-	

1/ Based on Active Storage

* 15-year Average 1958-72

SOIL MOISTURE - MAY

Drainage Basin and Station	Number	Elev.	Profile	Inches	Soil Moisture Content		
			Depth	Total Capacity	1975	1974	1973
<u>OKANOGAN</u>							
Salmon Meadows	19A2M	4500	48	5.4	3.8	3.8	3.7
Trout Creek	3-M	3600	48	7.3	-	5.6	4.3
<u>YAKIMA</u>							
Domery Flat	21B20m	2200	48	6.9	-	4.8	4.8
Lake Cle Elum	21B14M	2200	48	12.8	-	9.1	9.1
<u>WALLA WALLA</u>							
Couse	17C3m	3650	48	11.1	-	-	7.4
Helmers	17C2M	4400	48	12.0	-	-	9.9
<u>WENATCHEE</u>							
Upper Wheeler	20B7M	4400	48	12.7	12.4	13.0	9.2

FALL SOIL MOISTURE

Drainage Basin and Station	Number	Elev.	Profile	Inches	Soil Moisture Content		
			Depth	Total Capacity	1974	1973	1972
<u>OKANOGAN</u>							
Salmon Meadows	19A02M	4500	48	5.4	1.8	2.6	2.8
Trout Creek	3-M	3600	48	7.3	3.0	2.8	3.3
<u>YAKIMA</u>							
Domery Flat	21B20m	2200	48	6.9	-	2.6	4.1
Lake Cle Elum	21B14M	2200	48	12.8	-	6.1	8.7
<u>WALLA WALLA</u>							
Couse	17C3m	3650	48	11.1	-	5.6	6.0
Helmers	17C2M	4400	48	12.0	-	7.6	7.7
<u>WENATCHEE</u>							
Upper Wheeler	20B7M	4400	48	12.7	5.4	6.0	5.8

PRECIPITATION 1/

Division Averages and Departures

Drainage Divisions	FALL				SPRING			
	Sept-Oct Observed	1974 2/ Departure	Nov. 1974--Mar. 1975		April - 1975 Observed	Departure		
			Observed	Departure				
Columbia in Canada	1.22	-3.25	13.42	+0.67	0.49	-0.97		
Pend Oreille - Spokane	0.71	-3.77	21.69	+2.99	1.93	-0.37		
Northeastern Washington	0.30	-2.48	14.78	+3.67	1.44	-0.01		
Southeastern Washington	0.31	-2.92	15.27	+1.80	2.32	+0.29		
Central Washington	1.21	-3.54	31.75	+4.22	1.36	-0.83		
North Central Washington	0.37	-1.25	7.93	+1.21	1.10	+0.21		
Northwest Slope Cascades	3.25	-9.44	59.41	+7.18	4.15	-2.22		
Southwest Slope Cascades	2.49	-6.19	44.71	+3.07	2.76	-1.86		
Northeastern Washington			- Lower Spokane, Colville, Sanpoil and Lower Kettle Drainages.					
Southeastern Washington			- Touchet, Tucannon and Palouse Drainages.					
Central Washington			- Yakima, Wenatchee and Chelan Drainages.					
North Central Washington			- Methow and Okanogan Drainages.					
Northwest Slope Cascades			- Puget Sound Drainages.					
Southwest Slope Cascades			- Lower Columbia Drainages.					

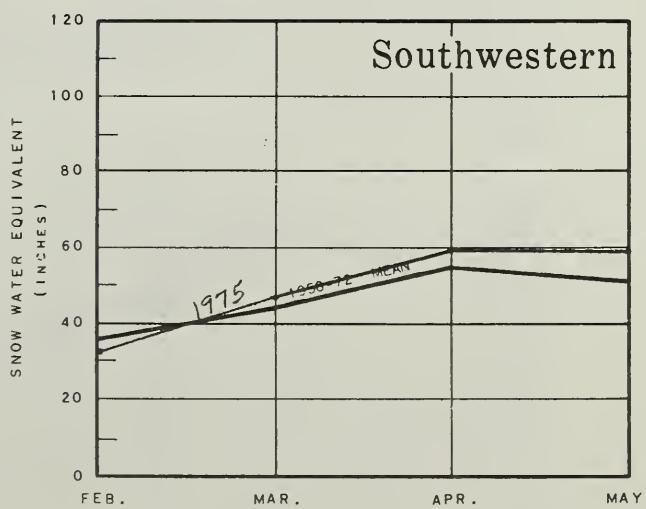
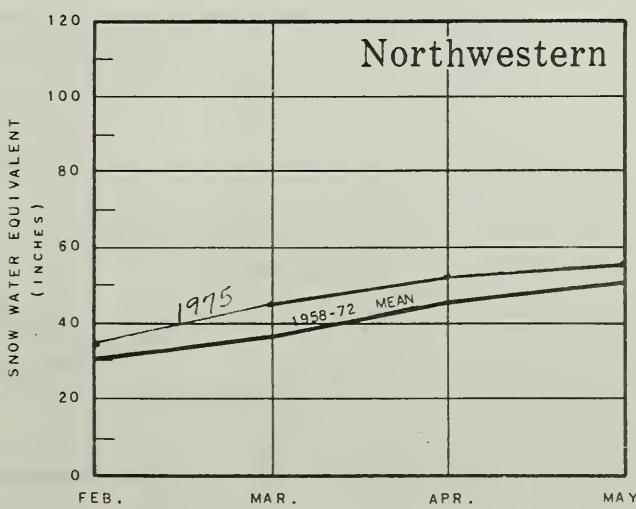
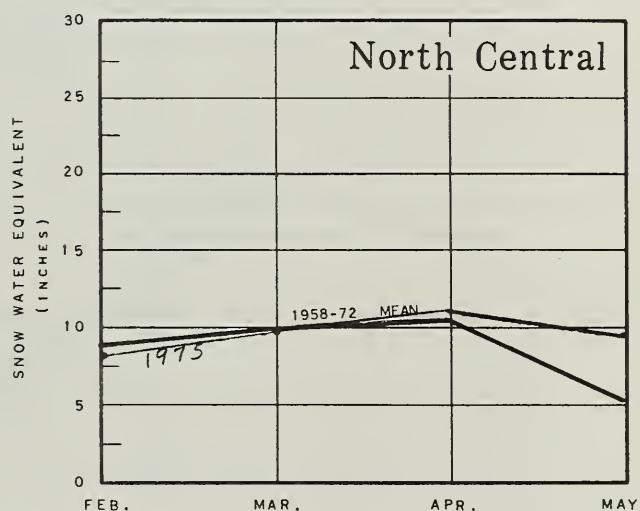
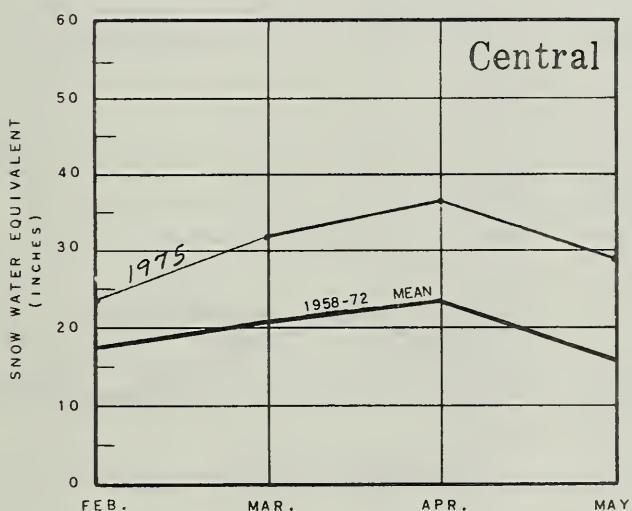
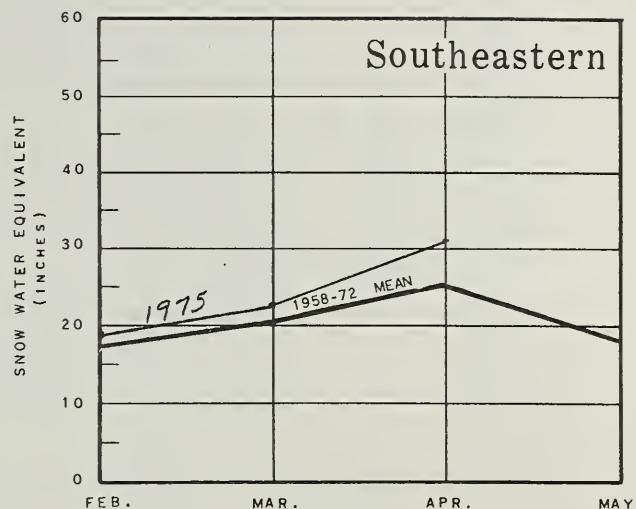
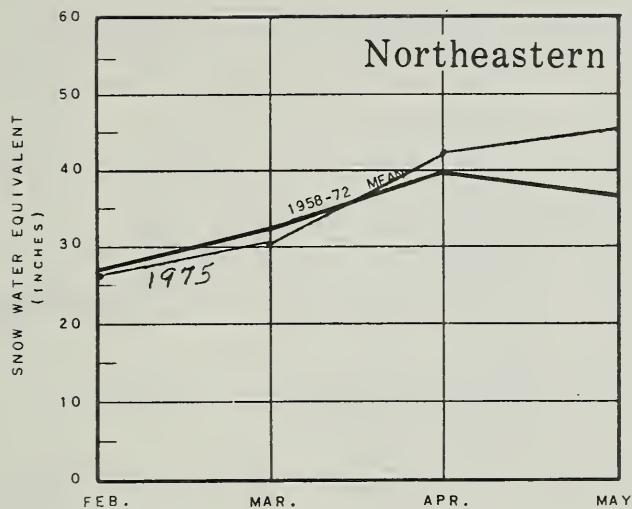
1/ - Preliminary analysis by National Weather Service from data furnished by Meteorological Services of Canada and the National Weather Service.

2/ - Departure from 15-year (1958-72) drainage division average.

WASHINGTON SNOW COVER

1975

DRAINAGE AREAS

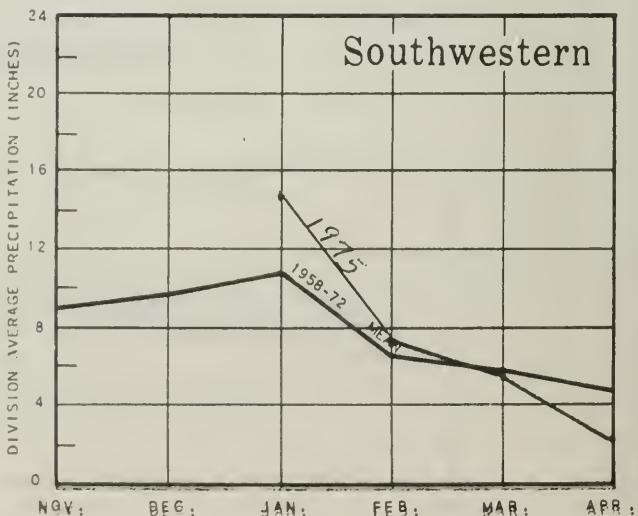
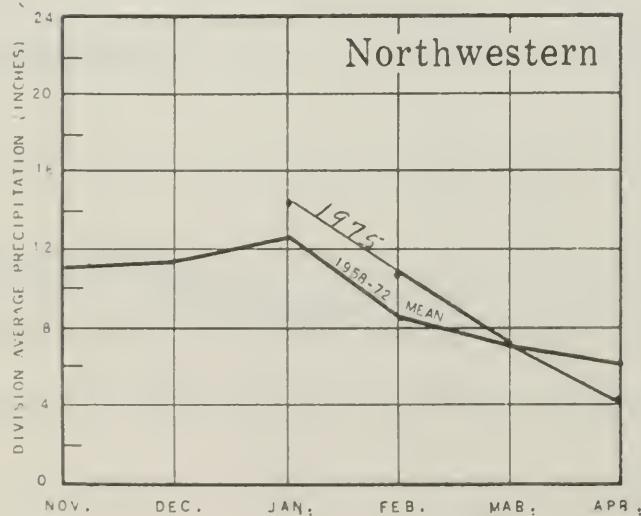
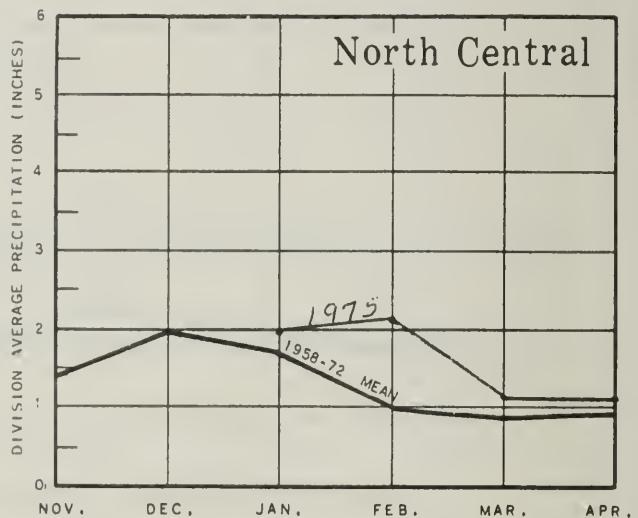
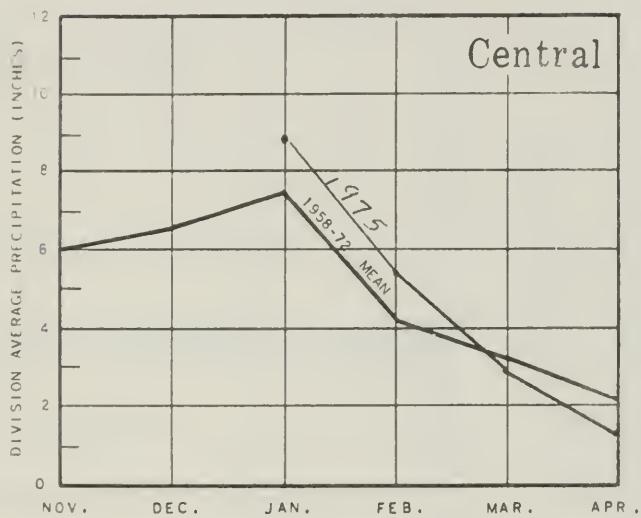
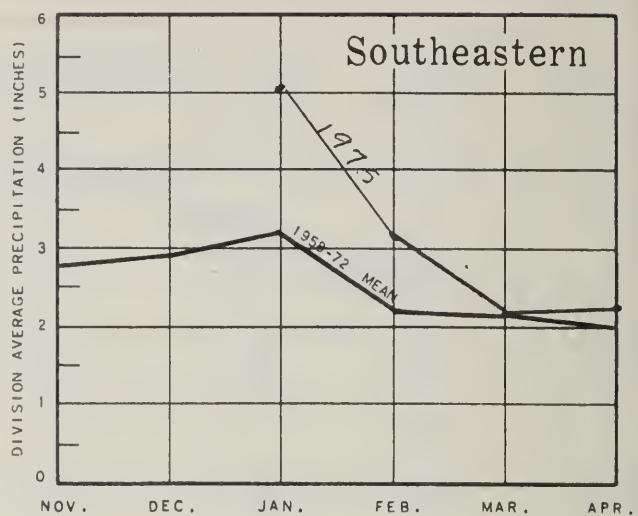
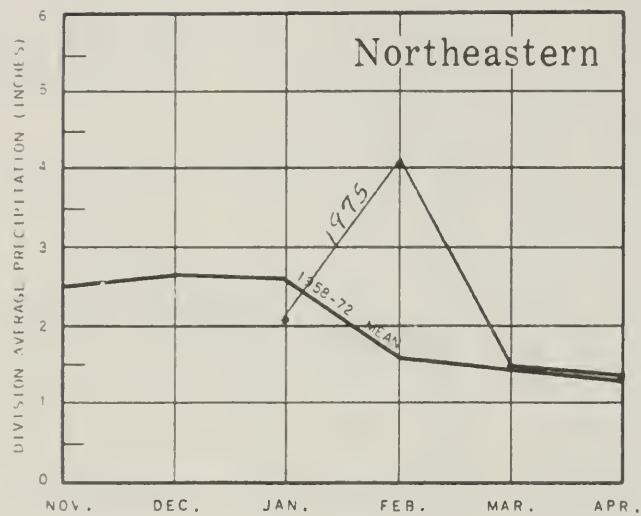


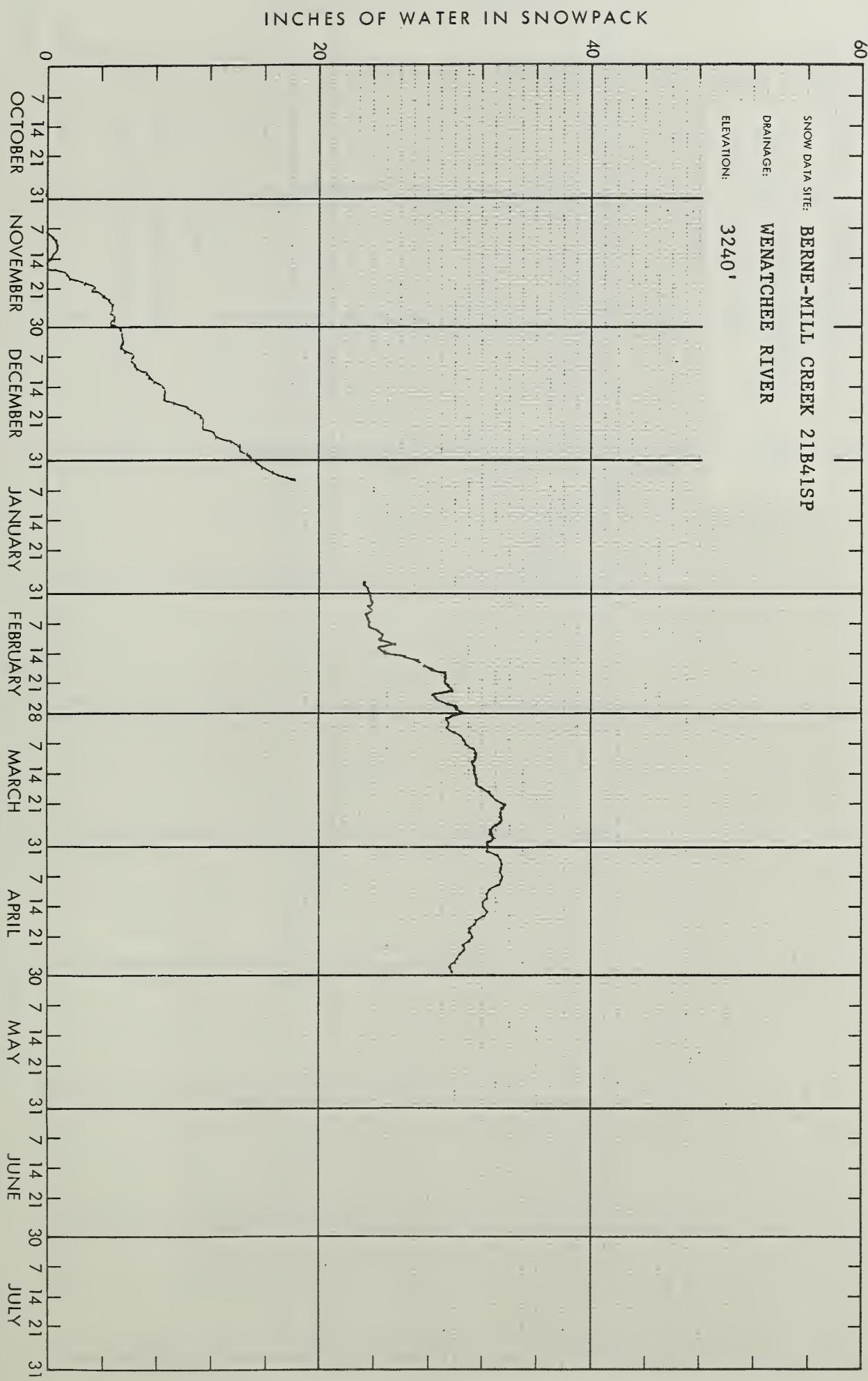
Selected Snow Survey Courses by Soil Conservation Service

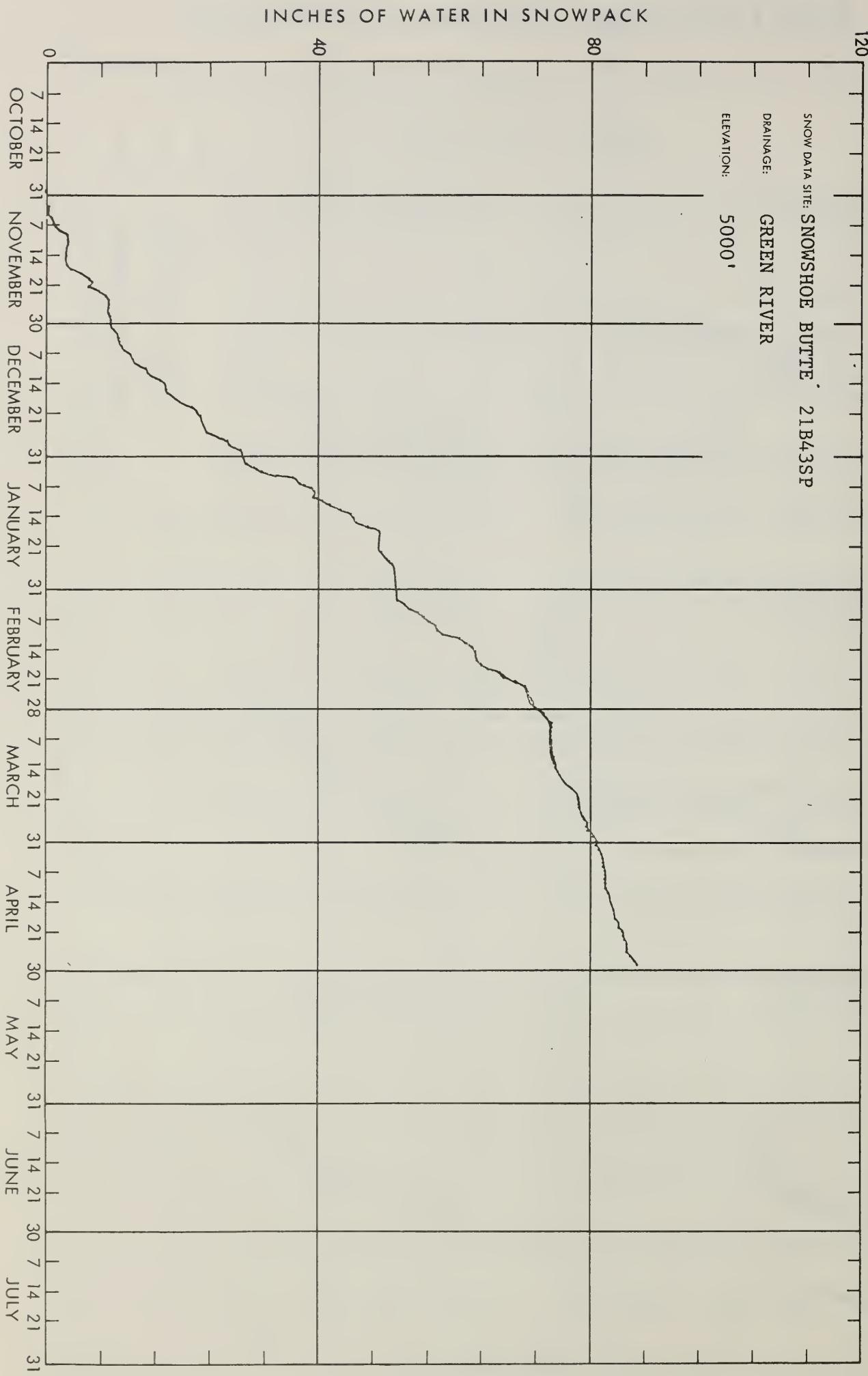
WASHINGTON VALLEY PRECIPITATION

1975

DRAINAGE AREAS

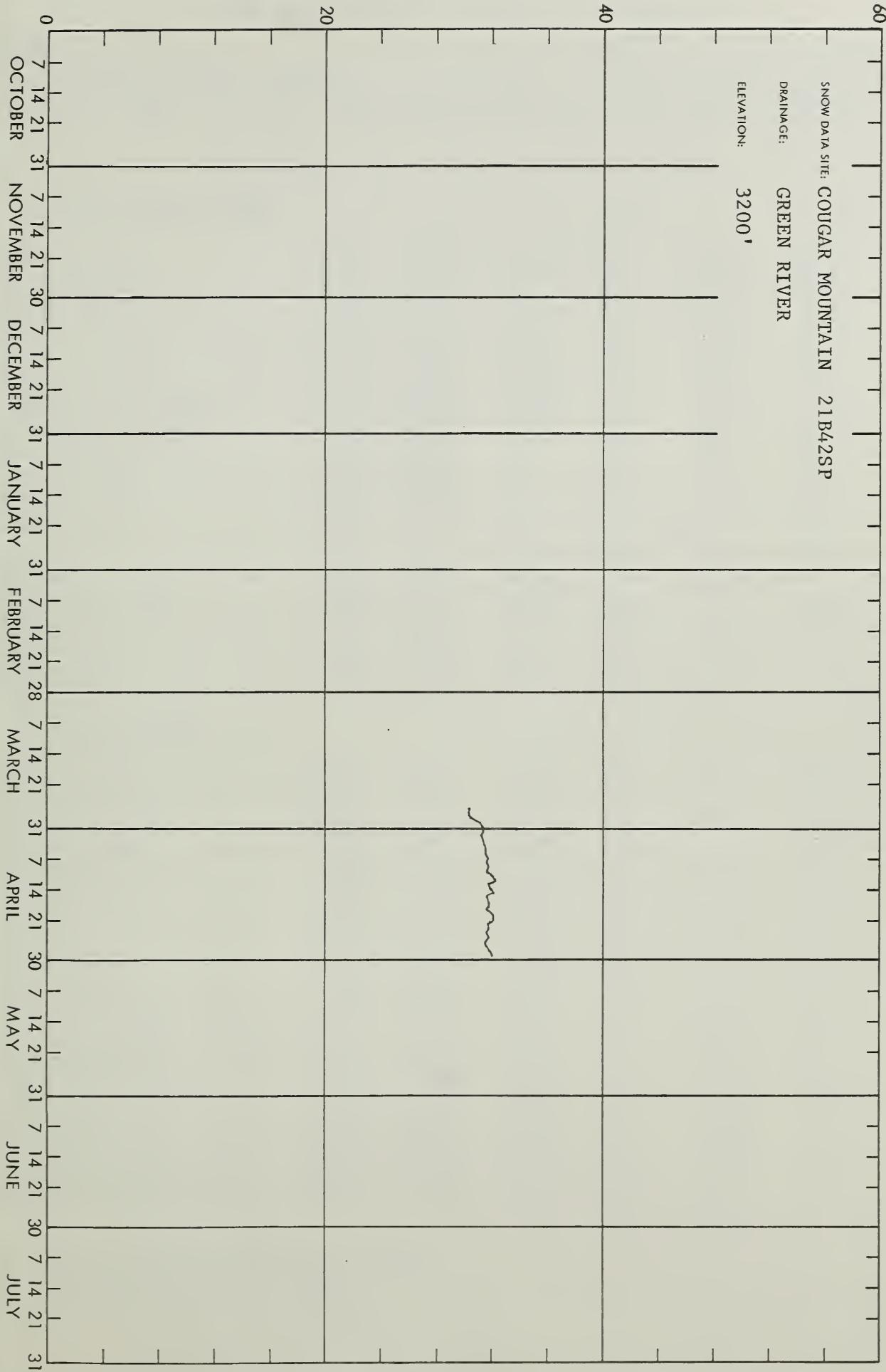


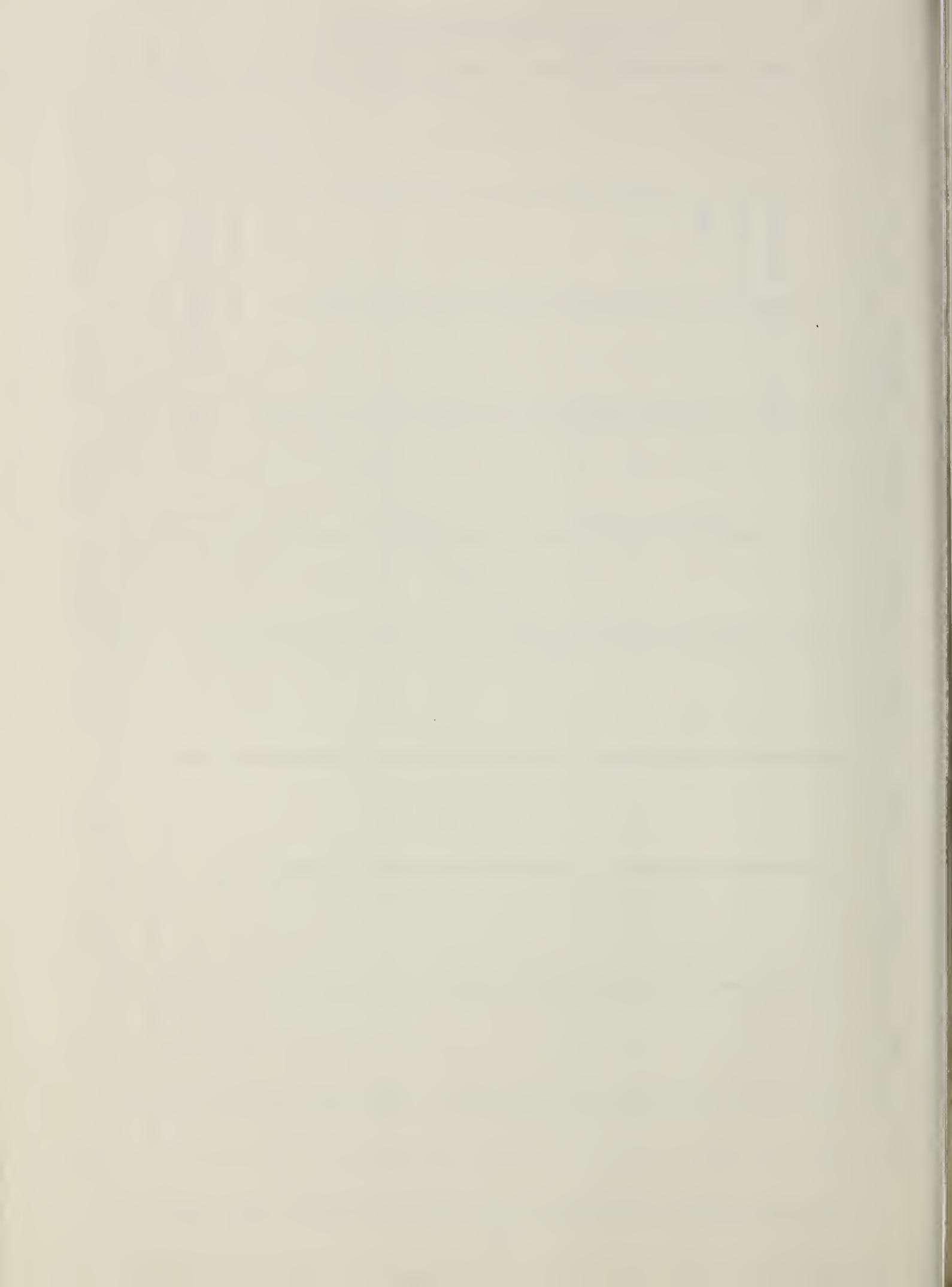




+

INCHES OF WATER IN SNOWPACK





SNOW DATA TO MAY 1, 1975 - APPENDIX 1

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD		
NAME	Number	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	Last Year	Average $\frac{\#}{\#}$

UPPER COLUMBIA DRAINAGEPEND OREILLE RIVER

Baree Creek	15B11	5500	4/29	130	61.4	74.3	49.6
Baree Midway	15B16	4600	4/29	105	47.8	50.9	35.1
Baree Trail	15B15	3800	4/30	24	10.3	1.6	1.2
Benton Meadow	16A02	2344	4/30	0	0.0	0.0	0.0
Benton Spring	16A03	4900	4/30	60	25.0	27.0	15.7
Boyer Mountain	17A02	5250	4/28	84	36.0	40.3	26.1
Brush Creek Timber	14A13	5000	4/29	32	11.9	9.6	8.2
Bunchgrass Meadow	17A01	5000	4/29	86	38.8	48.0	30.4
Heart Lake Trail	14C10	4800	5/2	69	30.2	26.4	19.0
Hoodoo Basin	15C10	6000	5/2	137	60.8	75.2	55.2
Hoodoo Creek	15C01	5900	5/2	128	57.6	72.2	52.2
Lookout	15B02	5250	4/15	Not Measured		56.8	-
			4/25	106	45.6	48.0	37.7
Nelson	19-Can	3050	4/28	37	15.6	11.7	7.0*
Schweitzer Bowl	16A06	4500	4/29	94	41.9	42.2	26.6
Schweitzer Ridge	16A05	6100	4/29	155	70.2	70.5	50.6
Smith Creek	16A01	4800	5/1	121	57.3	75.6	47.9
Winchester Creek	17A03	2970	4/28	23	9.5	0.0	1.6

KETTLE RIVER

Barnes Creek	90-Can	5300	4/30	54	21.8	26.9	21.3*
Big White Mtn.	154-Can	5500	4/28	67	27.4	30.0	21.3*
Bluejoint Mtn.	244-Can	7500	4/26	99	39.4	46.7	New
Boulder Road	18A02	1450	4/28	0	0.0	0.0	0.0
Butte Creek	18A03	4070	4/28	29	10.9	10.1	5.9
Cabin Creek	18A08	3170	4/28	14	5.1	1.5	1.5
Carmi	126-Can	4100	4/28	16	5.1	2.5	1.9*
Farron # 1	17-Can	4000	4/29	36	13.6	16.0	8.2*
Farron # 2	243-Can	4000	4/29	36	14.4	16.0	New
Goat Creek	18A04	3595	4/28	0	0.0	0.0	0.0
Graystoke Lake	5-Can	5950	4/25	64	22.0	29.3	26.9*
Monashee Pass	48A-Can	4500	4/30	35	13.2	15.5	13.4*
Old Glory Mtn.	42-Can	7000	4/29	98	40.7	48.0	30.8*
Snow Caps Creek	18A05	2150	4/28	0	0.0	0.0	0.0
Snow Caps Trail	18A06	2720	4/28	0	0.0	0.0	0.0
Summit G. S.	18A07	4600	4/28	32	10.8	8.5	6.0
Trapping Creek Lower	166-Can	3050	4/28	0	0.0	0.0	0.0*
Trapping Creek Upper	165-Can	4450	4/28	30	12.4	9.9	6.1*

Average based on 1958-72 average

* Average for years of record

SNOW DATA TO MAY 1, 1975 - APPENDIX 2

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	Last Year
NAME	Number	Elevation					Average [#]

SPOKANE RIVER

Above Burke	15B08	4100	4/25	76	33.6	28.8	-
Copper Ridge	16B02	4800	4/29	76	31.0	37.5	27.3
Forty-nine Meadows	15B03	5000	4/30	81	31.0	34.5	30.3
Fourth of July Summit	16B03	3100	4/25	14	5.5	0.0	-
Granite Peak	15B13A	6000	4/30	133	46.2	60.4	48.3
Lookout	15B02	5250	4/15	Not Measured	56.8	-	-
			4/25	106	45.6	48.0	37.7
Lost Lake	15B14A	6000	4/30	155	59.6	104.0	62.0
Lower Sands Creek	16B01	3400	4/29	54	23.0	27.1	16.0
Medicine Ridge	15B04A	6150	4/30	130	47.4	59.8	51.5
Mosquito Ridge	16A04A	5110	5/1	106	46.0	-	-

OKANOGAN RIVER

Aberdeen Lake	6-Can	4300	5/1	16	5.5	2.0	1.7*
Blackwall Mountain	100-Can	6250	4/28	91	38.2	52.8	38.8*
Brenda Mine	193-Can	4800	4/28	34	14.0	15.5	10.8*
Brookmere	27-Can	3200	4/29	29	10.3	5.6	5.9*
Carrs Landing Upper	168-Can	3200	4/28	0	0.0	0.0	0.0*
Enderby	130-Can	6250	4/30	114	40.7	54.1	43.1*
Esperon Creek Lower	164-Can	4400	4/26	37	15.0	14.8	11.0*
Esperon Creek Middle	163-Can	4700	4/26	46	20.4	20.2	13.9*
Esperon Creek Upper	162-Can	5400	4/26	61	24.7	31.7	20.4*
Freezeout Meadows New	20A38	5000	4/28	102	44.0	79.2	-
Graystoke Lake	5-Can	5950	4/25	64	22.0	29.3	26.9*
Hamilton Hill	107-Can	4900	4/28	43	15.7	15.6	13.4*
Harts Pass	20A05A	6500	4/28	127	53.9	72.9	50.7
Isintok Lake	152-Can	5510	4/26	32	10.8	13.0	7.3*
Lost Horse Mountain	105-Can	6300	4/29	40	13.4	17.9	10.7*
Loup Loup	19A07	4650	4/28	24	9.0	9.2	-
McCulloch	4-Can	4200	4/27	19	6.2	3.8	2.8*
Missezula Mountain	106-Can	5100	4/27	33	11.3	12.7	4.5*
Mission Creek	5A-Can	6000	4/25	73	26.2	31.4	21.7*
Monashee Pass	48A-Can	4500	4/30	35	13.2	15.5	13.4*
Mount Kobau	156-Can	5950	5/1	45	15.7	23.5	13.7*
Mutton Creek No. 1	19A01	5700	4/29	41	16.1	28.3	10.9
Mutton Creek No. 2	19A04	6000	4/29	47	17.3	29.1	15.5
Mutton Creek No. 2 SP	19A11SP	6000	4/29	-	14.8	25.4	-
New Copper Mountain	46A-Can	4300	4/26	9	2.1	0.0	3.7*
New Penticton Res. # 2	183-Can	5225	4/30	39	10.5	12.5	- *
Nickel Plate Mtn.	47-Can	6200	4/29	34	11.6	13.7	7.9*
Oyama Lake	203-Can	4400	4/29	22	6.8	-	4.2*

Average based on 1958-72 average

* Average for years of record

SNOW DATA TO MAY 1, 1975 - APPENDIX 3

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD		
NAME	Number	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	Last Year	Average [#]

OKANOGAN RIVER (Cont.)

Postill Lake	55-Can	4500	4/30	25	10.2	9.6	6.8*
Quartette Lake	34-Can	4000	4/26	36	9.9	13.8	-
Rusty Creek	19A03	4000	4/30	11	4.3	5.0	0.6
Salmon Meadows	19A02	4500	4/29	24	9.3	13.1	5.4
Silver Star Mountain	99-Can	6050	4/28	84	36.7	44.7	27.4*
Summerland Reservoir	3A-Can	4200	4/27	33	12.9	10.0	6.7*
Trout Creek	3-Can	4700	4/29	30	10.7	8.6	5.2*
Vaseux Creek	233-Can	4600	4/26	18	5.4	2.8	2.9*
White Rocks Mountain	70-Can	6000	4/29	74	35.4	39.9	28.3*

ENTIAT RIVER

Blue Creek G. S.	20B28a	5425	4/28	102	44.9	60.7	New
Brief	20B19	1600	4/27	0	0.0	0.0	0.0
Entiat Meadows +	20A33a	4800	4/28	104	45.8	69.9	41.0
Entiat River Trail +	20A34a	3150	4/28	24	10.1	15.8	9.7
Four Mile Ridge +	20B27a	7000	4/28	100	44.0	55.5	-
Fox Camp +	20A36a	6510	4/28	146	64.2	93.5	63.5
Pope Ridge	20B20	4300	4/28	44	18.5	20.0	8.2
Pugh Ridge +	20A32a	6400	4/28	95	41.8	61.2	38.7
Shady Pass	20A37	5000	4/28	83	36.1	46.6	-
Snow Brushy +	20A35a	3850	4/28	81	34.0	49.9	30.8
Tommy Creek +	20B21a	5300	4/28	51	22.4	36.0	22.5

METHOW RIVER

Harts Pass	20A05A	6500	4/28	127	53.9	72.9	50.7
Loup Loup	19A07	4650	4/28	24	9.0	9.2	-
Mutton Creek No. 1	19A01	5700	4/29	41	16.1	28.3	10.9
Mutton Creek No. 2	19A04	6000	4/29	47	17.3	29.1	15.6
Mutton Creek No. 2 SP	19A11SP	6000	4/29	-	14.8	25.4	-
Rusty Creek	19A03	4000	4/30	11	4.3	5.0	0.6
Salmon Meadows	19A02	4500	4/29	24	9.3	13.1	5.4

CHELAN LAKE BASIN

Rainy Pass	20A09	4780	4/27	110	49.8	60.6	44.3
------------	-------	------	------	-----	------	------	------

WENATCHEE RIVER

Berne-Mill Creek	21B23	2925	4/29	76	39.3	39.8	21.1
Berne-Mill Creek New SP	21B41SP	3240	4/29	62	31.4	31.6	17.7
Blewett Pass No. 2	20B02	4270	4/14	46	20.2	23.8	13.0

4/24

43

19.5

17.5

9.5

average based on 1958-72 average

* average for years of record

+ Snow water equivalent estimated from aerial stadia observation

SNOW DATA TO MAY 1, 1975 - APPENDIX 4

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
NAME	Number	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Last Year	Average #

WENATCHEE RIVER (Cont.)

Chiwaukum G. S.	20B16	1810	4/29	0	0.0	0.0	1.8
Fish Lake	21B04	3371	4/28	80	37.0	47.9	26.7
Lake Wenatchee	20B05	1970	4/29	12	5.4	3.1	1.6
Leavenworth R. S.	20B17	1127	4/25	0	0.0	-	0.0
Merritt	20B18	2140	4/29	35	15.6	8.3	3.8
Stevens Pass	21B01	4070	4/15	150	67.6	83.2	55.2
			4/29	146	69.2	82.6	55.8
Stevens Pass Sand Shed	21B45	3700	4/15	105	48.9	63.4	-
			4/29	101	48.7	59.6	-

SQUILCHUCK CREEK

Beehive Springs	20B03	4400	4/30	14	5.4	3.9	1.7
Scout-A-Vista	20B04	3400	4/30	1.2	0.5	0.0	0.4

STEMILT CREEK

Jump-Off	20B08	4450	4/28	21	8.2	4.6	2.8
Stemilt Slide	20B06	5000	4/28	33	14.7	14.9	7.1
Upper Wheeler	20B07	4400	4/28	16	7.3	0.0	1.0

COLOCKUM CREEK

Colockum Creek Upper	20B22	5300	4/28	38	17.5	15.3	-
Colockum Creek Lower	20B23	4300	4/28	19	8.5	3.0	-

YAKIMA RIVER

Big Boulder Creek	21B09	3200	4/28	47	20.9	28.1	7.4
Blewett Pass No. 2	20B02	4270	4/14	46	20.2	23.8	13.0
			4/24	43	19.5	17.5	9.5
Bumping Lake	21C08	3450	4/14	51	20.4	28.2	13.4
			4/30	39	14.8	19.9	9.4
Bumping Lake New	21C36	3400	4/14	66	26.4	34.2	-
			4/30	49	21.5	26.6	15.0
Cayuse Pass	21C06	5300	4/29	234	105.4	138.1	-
Corral Pass	21C13	6000	4/29	136	58.4	-	-
Fish Lake	21B04	3371	4/28	80	37.0	47.9	26.7
Joe Lake +	21B46a	4624	4/29	216	99.4	-	-
Lake Cle Elum	21B14M	2200	4/15	19	8.0	0.0	-
			4/30	0	0.0	0.0	0.0

Average based on 1958-72 average

+ Snow water equivalent estimated from aerial stadia observation

SNOW DATA TO MAY 1, 1975 - APPENDIX 5

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
NAME	Number	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	Last Year
							#

YAKIMA RIVER (Cont.)

Lemah Creek +	21B47a	3327	4/29	100	46.0	65.0	-
Morse Lake	21C17	5400	4/29	162	88.1	-	65.1
Olallie Meadows	21B02	3625	4/15	138	64.8	91.3	48.4
			4/29	145	66.5	91.8	48.6
Satus Pass	20D01	4030	4/29	29	12.8	7.8	1.9
Stampede Pass SP	21B10	3860	4/15	-	53.8	65.7	43.4
			5/1	-	55.0	62.1	43.4
Tunnel Avenue	21B08	2450	4/14	79	33.0	34.3	20.1
			4/30	65	29.0	27.0	16.0
Van Epps Pass +	20B26a	5925	4/29	137	63.0	75.0	-
Waptus Lake +	21B49a	3024	4/29	91	41.9	50.0	-
White Pass (E. Side)	21C28	4500	4/15	89	34.0	45.4	26.0
			5/1	82	33.6	45.3	25.9
White Pass (L. Lake)	21C27	4500	4/29	90	39.3	49.5	28.6

LOWER COLUMBIA DRAINAGEASOTIN CREEK

Spruce Springs	17C04	5700	4/30	78	33.3	43.7	25.8
----------------	-------	------	------	----	------	------	------

MILL CREEK

Tollgate	18D3M	5070	5/1	Not Measured	52.9	18.9
----------	-------	------	-----	--------------	------	------

KLICKITAT RIVER

Satus Pass	20D01	4030	4/29	29	12.8	7.8	1.9
------------	-------	------	------	----	------	-----	-----

WHITE SALMON RIVER

Cultus Creek	21C12	4000	4/28	122	51.3	79.7	48.9
Surprise Lakes	21C13A	4250	4/28	136	59.7	92.5	52.9

WIND RIVER

Old Man Pass	21D19	3100	4/28	44	18.6	27.0	12.6
--------------	-------	------	------	----	------	------	------

Average based on 1958-72 average

+ Snow water equivalent estimated from aerial stadia observation

SNOW DATA TO MAY 1, 1975 - APPENDIX 6

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	Last Year
NAME	Number	Elevation					Average #

LEWIS RIVER

Blue Lake +	21C22a	4800	4/28	244	104.9	146.0	92.4
Bob-s Trail	21C21	2200	4/26	29	12.1	18.0	7.8
Calamity Ridge +	22D01a	2500	4/28	8	3.5	0.0	1.3
Council Pass +	21C18a	4200	4/28	116	51.0	68.0	38.8
Cultus Creek	21C12	4000	4/28	122	51.3	79.7	48.9
Divide Meadow +	21C29a	5600	4/28	164	70.5	96.0	65.5
Grand Meadow	21C25	3500	4/26	67	30.6	40.2	22.4
Lone Pine Shelter	21C26	3800	4/29	119	48.9	81.0	46.3
Marble Mountain +	22C05a	3200	4/28	74	35.5	72.6	33.2
Mosquito Meadows	21C19	4100	4/29	115	49.4	72.9	45.8
New Muddy River	22C06	1400	4/26	0	0.0	0.0	0.8
Old Man Pass	21D19	3100	4/28	44	18.6	27.0	12.6
Plains Of Abraham +	22C01a	4400	4/26	182	80.1	120.4	76.9
Smith Creek Road	22C04	2100	4/26	15	7.4	6.1	5.3
Spencer Meadow +	21C20a	3400	4/26	51	23.5	43.2	16.1
Surprise Lakes	21C13A	4250	4/28	136	59.7	92.5	52.9
Table Mountain +	21C24a	4200	4/28	134	59.0	82.0	40.3
Timbered Peak +	21D18a	3000	4/28	36	15.8	25.0	9.9

COWLITZ RIVER

Cayuse Pass	21C06	5300	4/29	234	105.4	138.1	-
Mosquito Meadows	21C19	4100	4/29	115	49.4	72.9	45.8
Plains of Abraham +	22C01a	4400	4/26	182	80.1	120.4	76.9
Potato Hill	21C14	4500	4/29	98	42.4	53.7	-
White Pass (E. Side)	21C28	4500	4/15	88	34.0	45.4	26.0
			5/1	80	33.6	45.3	25.9
White Pass (L. Lake)	21C27	4500	4/29	90	39.3	49.5	28.6

PUGET SOUND DRAINAGENISQUALLY RIVER

Ghost Forest	21C04	4550	4/24	125	61.1	80.7	-
Longmire	21C03	2760	4/24	17	7.6	10.8	-
New Paradise Park	21C35	5500	4/24	209	93.0	127.8	-
Stem Glade	21C01	5050	4/24	195	84.4	110.0	-

WHITE RIVER

Cayuse Pass	21C06	5300	4/29	234	105.4	138.1	-
Corral Pass	21C13	6000	4/29	136	58.4	-	-
Morse Lake	21C17	5400	4/29	162	88.1	-	65.1

Average based on 1958-72 average

+ Snow water equivalent estimated from aerial stadia observation

SNOW DATA TO MAY 1, 1975 - APPENDIX 7

SNOW	THIS YEAR					PAST RECORD	
	DRAINAGE BASIN and/or SNOW COURSE			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)
	NAME	Number	Elevation				Last Year
							Average [†] / _‡

GREEN RIVER

Cougar Mountain SP	21B42SP	3200	4/29	65	30.7	26.0	-
Snowshoe Butte SP	21B43SP	5000	4/15	Not Measured		89.2	-
			4/29	180	76.5	100.0	-
Stampede Pass SP	21B10	3860	4/15	-	53.8	65.7	43.4
			5/1	-	55.0	62.1	43.4

SNOQUALMIE RIVER

Olallie Meadows	21B02	3625	4/15	138	64.8	91.3	48.4
			4/29	145	66.5	91.6	48.6

SKYKOMISH RIVER

Stevens Pass	21B01	4070	4/15	150	67.6	83.2	55.2
Stevens Pass Sand Shed	21B45	3700	4/15	105	48.9	63.4	-
			4/29	101	48.7	59.6	-

SKAGIT RIVER

Beaver Creek Trail	21A04	2200	4/28	32	13.2	7.3	4.8
Beaver Pass	21A01	3680	4/28	80	35.0	50.3	34.0
Brown Top	21A28a	6000	4/28	161	71.2	98.0	-
Cloudy Pass	20A22a	6500	5/1	Not Measured		-	-
Devils Park	20A04	5900	4/27	126	55.1	67.6	49.5
Freezeout Cr. Trail	20A01	3500	4/27	33	12.9	15.8	8.2
Freezeout Meadows New	20A38	5000	4/28	102	44.0	79.2	31.0
Granite Creek	21A29	3500	4/27	45	19.0	20.8	-
Harts Pass	20A05A	6500	4/28	127	53.9	72.9	50.7
Klesilkwa	35B-Can	3700	5/1	Not Measured		16.9	11.3*
Meadow Cabins	20A08	1900	4/27	9	3.8	0.0	1.3
New Hozomeen Lake	21A30	2800	4/28	31	10.6	11.5	-
New Tashme	26A-Can	2500	4/29	24	10.5	1.1	5.6*
Quartette Lake	34-Can	4000	4/26	36	9.9	13.8	- *
Rainy Pass	20A09	4780	4/27	110	49.8	60.6	44.3
Thunder Basin	20A07	4200	4/27	97	42.1	33.9	25.5

BAKER RIVER

Baker Pass +	21A27a	4900	4/13	218	98.0	133.0	-
			4/29	222	99.9	135.0	-
Dock Butte	21A11A	3800	4/13	174	78.0	106.0	64.0
			4/29	172	78.8	106.8	77.4

Average based on 1958-72 average

* Average for years of record

+ Snow water equivalent estimated from aerial stadia observation

SNOW DATA TO MAY 1, 1975 - APPENDIX 8

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
NAME	Number	Elevation	Date of Survey	Snow Depth (inches)	Water Content (inches)	Water Content (inches)	Last Year

BAKER RIVER (Cont.)

Easy Pass	21A07A	5200	4/13	204	92.0	117.0	86.7
			4/29	224	101.0	126.3	93.3
Jasper Pass	21A06A	5400	4/13	228	102.0	133.0	91.1
			4/29	232	104.2	134.2	102.7
Komo Kulshan	21A17	800	4/29	0	0.0	0.0	0.7
Marten Lake	21A09A	3600	4/13	194	87.0	129.0	80.4
			4/29	194	86.5	122.3	83.8
Mount Blum +	21A18a	5800	4/13	178	80.0	95.0	-
			4/29	180	81.0	97.0	-
Panorama New	21A26	4300	4/14	180	82.7	114.7	-
			4/28	189	83.7	146.1	-
Rocky Creek	21A12A	2100	4/13	96	43.0	48.0	25.5
			4/30	81	37.6	37.4	22.6
Schreibers Meadow	21A10A	3400	4/13	145	65.0	97.0	63.0
			4/29	158	73.8	100.4	67.5
S. F. Thunder Creek	21A14A	2200	4/13	35	16.0	10.0	1.7
			4/30	13	5.7	0.0	1.1
Sulphur Creek	21A13	1600	4/30	32	14.1	7.0	6.4
Three Mile Creek	21A15	4500	4/30	0	0.0	0.0	0.0
Watson Lakes	21A08A	4500	4/13	170	76.0	95.0	72.9
			4/29	181	77.2	98.8	76.9

NOOKSACK RIVER

Panorama New	21A26	4300	4/14	180	82.7	114.7	-
			4/28	189	83.7	146.1	-

OLYMPIC PENINSULAMORSE CREEK

Cox Valley	23B14	4500	4/28	102	45.1	55.4	-
------------	-------	------	------	-----	------	------	---

ELWHA RIVER

Hurricane	23B03	4500	4/27	71	28.1	31.1	26.9
-----------	-------	------	------	----	------	------	------

SKOKOMISH RIVER

Black & White	23B07	4200	4/27	128	53.2	68.2	-
Black & White Lakes	23B06	4700	4/27	160	72.6	101.6	-
Home Sweet Home	23B05	5200	4/27	194	80.8	126.2	-

Average based on 1958-72 average

+ Snow water equivalent estimated from aerial stadia observation

Agencies Assisting with Snow Surveys

GOVERNMENT AGENCIES

Canada:

Department of Lands, Forests and Water Resources,
Water Resources Service, British Columbia

States:

Washington State Department of Ecology
Washington State Department of Natural Resources

Federal:

Department of the Army
Corps of Engineers
U. S. Department of Agriculture
Forest Service
U. S. Department of Commerce
NOAA, National Weather Service
U. S. Department of the Interior
Bonneville Power Administration
Bureau of Reclamation
Geological Survey
National Park Service

PUBLIC AND PRIVATE UTILITIES

Chelan County P.U.D.
Pacific Power and Light Company
Puget Sound Power and Light Company
Washington Water Power Company

OTHER PUBLIC AGENCIES

Okanogan Irrigation District
Wenatchee Heights Irrigation District

MUNICIPALITIES

City of Tacoma
City of Seattle

*Other organizations and individuals furnish valuable information for
snow survey reports. Their cooperation is gratefully acknowledged.*

POSTAGE AND FEES PAID
U. S. DEPARTMENT OF
AGRICULTURE
AGR-101

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ROOM 360, U.S. COURT HOUSE
SPOKANE, WASHINGTON 99201
OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300

FIRST CLASS MAIL

FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Furnishes the basic data
necessary for forecasting
water supply for irrigation,
domestic and municipal water
supply, hydro-electric power
generation, navigation,
mining and industry

*"The Conservation of Water begins
with the Snow Survey"*